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THE

AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT
"AGRICOLAS." . . . . . *Virg.*

PUBLISHED BY SAML. SANDS & SON, BALTIMORE, MD.

VOL. VI.—No. 1.] JANUARY, 1877. [NEW SERIES.

A New Volume of the American Farmer.

How often have we been called upon to reiterate the annunciation, that "the present number is the commencement of a new volume of the *American Farmer?*" And yet in the course of a merciful Providence we are spared to make the announcement once more, and again to renew our heartfelt gratitude for the continued evidences of the kindness and confidence which we have enjoyed at the hands of our numerous friends and readers. But few of our profession have held a position similar to that which we have enjoyed. Our long connection with this journal, and constant intercourse through its pages, and, in many cases, personal contact with its readers, have created a feeling which almost amounts to that of a fraternal brotherhood,—evincing a confidence and regard of which we have good reason to be proud. Can we not claim and expect, therefore, the continued aid and support of our friends, as we have so long enjoyed them in the past? We have no stronger guarantees to offer for our efforts in the future, than what we have given in the times that are gone, of our devotion to, and zeal in behalf of, the cause of Agriculture; and we think we can proudly point to the pages of the *Farmer* for the past few years, as showing that it has continued to improve with age; and, although hundreds of similar journals have sprung into existence since the *Old Pioneer* first led the way, we feel no compunctions of vanity or egotism when we say, that not one of them at the present day holds a higher rank or enjoys more the confidence and respect of the agriculturists of our country than does the *American Farmer.*

It is not our intention at this time to boast of what we intend to do in the future,—promises are easily made, and too frequently without any sound reason for the expectation of their fulfilment; we can only say, in this respect, that we intend to avail of every opportunity which may present, to add to the usefulness and solid attractiveness of our paper. And we have reason to hope, in the course of the year now just being ushered in, that numerous facilities will be afforded us of extending its value to our readers. We believe we understand our business; we know we have a character to sustain, earned by a series of labors and successes extending back for a period equal to or beyond a common life-time; and if life is spared to those who have the work in hand, our friends will be sure to enjoy the benefits which our experience has afforded.

In regard to the contents of our journal, we enjoy the correspondence of a host of writers, composed principally of practical men in every department of agricultural life—and we have good reason to expect that their number and ability will be increased in the future. We could, perhaps, make the *Farmer* more popular in one sense, and add more largely to its circulation, were we to permit its pages to be desecrated by the clap-trap, and too often humbuggery, of the day—but we believe there is something of higher value even than money, and we never can condescend to lower the standard to which our journal has attained, by paltering to the vicious or grovelling tastes of the times, or lending its influence to doubtful projects and personal attempts of designing parties who are ever on the alert to impose upon the unsuspecting, honest yeomanry of the land.

With this brief exposition of our views, we again appeal to our long-tried friends, not only for a prompt renewal of their own subscriptions, but that each will endeavor to send us at least one new subscription—indeed we believe that there are but few of them but can make up a club, by presenting to their neighbors the merits of the journal. And, in closing, we wish our friends and readers a happy new year, and prosperity in all their undertakings.

Agriculture as a Science.

From an address delivered before Centralia Grange, No. 87, Anne Arundel Co., Md., September 16th, 1876, by Dr. Martin P. Scott, we make the following extract, which we will follow with others:

The science of agriculture is an exemplification of the fact that all sciences are connected and mutually dependent. She calls to aid every branch of physical science, natural philosophy and chemistry, including thus, Astronomy, Mechanics, Hydraulics, Pneumatics, Geology, Botany, Zoology, Mineralogy, Metereology and Physiology, for there is a physiology of the vegetable as well as of the animal kingdom.

Geology and Mineralogy.

Geology occupies itself with the crust of the earth—*i. e.*, with the solid materials that we can get at, with the different kinds of rocks, their arrangement in strata, and those which are scattered loose on or near the surface. The nature of these rocks is important, because soils are formed by the disintegration or crumbling of rocks, caused by the action of heat and cold. Limestone rocks give a soil of lime, as the chalky soil of some parts of England, chalk being only a variety of limestone. Sandstone gives a soil of sand. Clay rock a soil of clay.—These soils are often mixed, as limestone, clay and sand, making a loamy soil. A knowledge of the kind of soil is most important, as they require different kinds of treatment, and are adapted to the growth of different kinds of plants and stock. Clay lands are stiff and tenacious; hold water and manure; whilst sandy soils are open, porous, thirsty, and from their porosity during rainy seasons lose all the manure which may have been applied; hungry and poor, they drink up all the water and eat up all the manure. It is washed below the reach of the roots of the plants.

Soils act mechanically as well as chemically in relation to plants. It will be apparent that the facts of geology may be applied by the agriculturist, for geological structure determines its agricultural products, and, to a certain extent, the system of culture.

Minerals of various kinds occur in the soil, some of which add immensely to the fertility of the soil. You all know from experience that bone ash is an important fertilizer. The manuring principle in bone is known as phosphate of lime. It also occurs as a natural product in some soils. It is found as a constituent of green sand marl, the most valuable of all the marls. It exists as a mineral product in South Carolina, in many Atlantic Islands and other parts of the earth, and when treated with sulphuric acid and mixed with organic matter forms a most excellent manure.

Uses of Botanical Knowledge.

A knowledge of *botany* is most important.—*Botany* is the *science* of *plants*—the *knowledge* of plants. It must therefore have a close relation to their culture. It treats also of the natural relation of plants to each other. The use of botany to horticulture is apparent, giving new varieties of vegetables to the gardener, new shrubs and flowers, knowledge how to transplant, when to do so; the climate, soil, &c., suitable to different plants, &c. Botany treats of the structure of plants, and therefore the modes of their nourishment or manner of feeding. The structure of the leaf informs us that it is a feeder to the plant, by drawing certain materials from the atmosphere, whilst it yields others to it. The structure of the stems of plants is also connected with their growth, in which exists a system of vessels constituting a vascular system, by means of which the elaborated food is supplied to the plant.

The structure of roots is another important practical point which enables the plant to draw sustenance from the soil. Some spread the roots over the surface to a great distance. Some strike deep into the soil, requiring different kinds of soil. Wheat requires a stiff clay soil; its roots strike deep, therefore plow deep; the turnips a light soil, therefore lighten your clay soil if you want a crop.

Different kinds of plants also indicate to the skillful observer different kinds of soil. He could tell from the plants what kind of rocks were to be found where they grew.

The thistle indicates a rich and productive soil. In the valley of Virginia, famous for its fertility, you will often see entire fields of blue thistle. The farmers regard it as a fertilizer, and plow it in when preparing fallow for wheat.

Trees indicate different varieties of soil. The beech, on a light soil, indicates fine cotton land in the South. The maple, a light and superior kind of soil.

Habits of plants are important, especially those that are noxious, so that we can know best how to exterminate them. The vitality of seed is of importance. We all know how difficult it is to exterminate the wild onion, which flavors milk, butter, and even the flesh of the animal itself. Wheat found with an Egyptian mummy, supposed to have been 3,000 years old, when sown proved to be productive.

Johnston, in his lectures on agriculture, cites the examples of raspberry seed found in the stomach of a man who lived in the reign of the Emperor Adrian, 1,700 years before his remains were found, which, when planted, produced a crop. Roman coins of that date were found with the remains.

Then there are mildew, smut and rust so destructive of crops. Botanists have discovered how they grow, what they are, how they propagate, how they get into the plant and seed, and how they may be exterminated. The potato smut, fungus, or rot, caused a famine in Ireland.

Rye is liable to a disease called spurred rye, or ergot. It is stated that this ergot is found not only in rye, but in various kinds of common grasses on which cattle feed, particularly among the rank grasses that grow in marshy places. (It was inferred that this ergot produced in the cattle the same effects it causes upon the human being, which it is said was the reason why farmers found it impossible to procure calves. The marshes were drained, and the disease or fungus disappeared.)

Zoology and Entomology.

Zoology is important to the farmer, particularly to stock-breeders. For this is the science that informs us of the general habits and structure of animals, the natural relation of one to the other,

and the functions of their several parts; how they live, and how they live best. It teaches a farmer what is a breed; what qualities characterize different breeds; how to preserve them pure; how to distinguish one breed from another, &c.

Entomology, which is the study of insects, is all-important, for insects attack your orchards and crops. The cut-worm destroys your corn; the fly and joint-worm your wheat, destroying within a few weeks the labor of the year. The farmer must turn to the men of science for aid to mitigate or cure these evils. * * * * * *

Science and Experience must go together.

The great object of the *practical* farmer is to know what to add to the soil to procure a crop.

This knowledge he may gain by a long term of experience, but this requires a long time to acquire, because our crops require a long time to grow and mature. Much time must therefore be expended, and often much money be lost.

Experiment and science must go hand in hand. By experiment we correct theories, of which many absurd ones are promulgated by those who have no practical knowledge to guide them. I once knew a most learned botanist to announce to an academy of sciences, that wheat and rye did not branch; he consulted books, not nature.

But it will be admitted that the great object to understand is, what a plant takes from the soil; and, then, what to put in the soil to bring it back again. If you take the most fertile soil and crop it every year in wheat, a time will come when it will not bring you a crop. The reason of this is, that the wheat has abstracted from the land the substances necessary to construct the plant and reproduce the seed.

It is obvious that if you knew what these substances were which grew the wheat that you could restore to the soil its wheat capacity by putting them back again. This might be known by a chemical analysis of the soil before it was cultivated in wheat, and after it became wheat-poor; but the most obvious and certain plan is to find out what the wheat plant contains—of what it is composed. This can be done and has been done by chemical analysis.

Having ascertained of what the wheat consists, you can apply the appropriate manure. You must bear in mind that to manure is to supply those substances which the plant can appropriate to its use in order to grow the stem and leaves, and to reproduce the grain. As plants differ in their composition, they will require different kinds of manure to the extent of this difference. This must be done by the chemist and physiologist, and shows the great aid agriculture derives from science.

It cannot be expected that farmers shall be chemists and physiologists, but the educated farmer can profit to the greatest extent from scientific agriculture, and will be able to detect and expose the frauds practiced on the ignorant by the avaricious and unprincipled manufacturer of manures, and force him to adopt the old adage, that honesty is the best policy.

The institution of the grange springs, in part, from the belief that the farmer is imposed upon by the merchant; that he pays too much for his implements and his manures; it is evident, therefore, that your agent should not only be a judge of farming implements, machinery, &c., but he ought to know whether he is providing for you a good and genuine article of manure. And until you can test your manures for yourselves you should have in your employment a chemist upon whose knowledge and honesty you can rely. I think that this is a practical question for your consideration. Apply the old Jeffersonian rule in the choice of your agent—is he honest, is he capable. Few manufacturers would be bold enough to offer a false article if he knew that it would undergo the scrutiny of examination, and that exposure would follow fraud.

The Composition of Soils and Fertilizers.

Every farmer ought to know his soil, as well as the peculiar manure applicable to the growth of his different crops. Soil is a complicated material, containing a great many substances in different proportions, on which proportions the quality of the soil depends, and chemical research has shown that all fertile soils contain a limited number of certain things.

Fertilizers do and must contain them. If these things are wanting, no soil can be fertile.

"Plants are formed of 14 invariable elements."—(*M. George Ville, France.*)

Four of these are organic, because only found in living beings; ten are minerals, and belong by their nature to the crust of the earth. The organic are: carbon, hydrogen, oxygen and nitrogen, which form 95 per cent. of vegetable matter.

The mineral elements are: phosphorus, sulphur, chlorine, silicium, iron, manganese, calcium, magnesium, sodium, potassium.

The indefinite combination of these 14 elements form all the plants on the surface of the earth, like the alphabet of 26 letters constructs all the words of the English language.

Now, of these ten minerals, the farmer need concern himself with only three (3); the reason of this is that most soils contain the other seven minerals in sufficient quantities, but they are not the less necessary to vegetation. Phosphate of lime, nitrate of potash, sulphate of lime; these, with nitrogen, as sulphate of ammonia, form a complete fertilizer for most soils.

It is obvious that plants must obtain these elements from some source. The two great reservoirs are the atmosphere and the earth. Water is the great and necessary solvent, because every substance must, in order to be taken up by the plant, be in the fluid state—*i. e.*, either liquid or gaseous. The leaves absorb a gaseous compound from the atmosphere, whilst the roots feed upon the liquid manure.

If you burn a plant a certain amount of ash is left. This is the *mineral* matter; it is the solid residue of combustion. The rest is termed organic matter; it is the gaseous residue of combustion; the greater part of the plant goes off when burnt as gas or vapor and smoke. If you burn your soil a certain portion is lost, goes off as gas or vapor and smoke, the so-called organic matter, much the larger is left, the mineral matter, the so-called inorganic matter. Now, if we analyze or examine these gaseous and mineral products of combustion, we can approximatively ascertain what substances come from the atmosphere, because we know its composition, and what from the soil. Therefore we know for that

particular plant what to put back into the soil to keep up its fertility; or if the soil will not produce the plant, what substance to give it; in a word, what manures to use.

What is the ART of Farming?

The art of farming mainly consists in the art of manuring, or supplying to the crop the proper kind of food in proper proportions or sufficient quantities. The atmosphere is inexhaustible, the soil is not, but God has given man the materials for its refertilization, and he must cultivate his understanding and physical powers in order to apply them.

The mechanical character of the soil very much controls the kind of plants that will naturally grow on it.

On very light lands, rye, of all grains, grows best; on heavy clay lands, wheat, clover and grass grow most luxuriantly. Thus we find that the physical character of the soils are of great consequence, and determine the agricultural products of the regions where they exist. Soils may be improved mechanically as well as chemically; in fact all the conditions must be fulfilled if we would have a perfect result.

Deep ploughing and subsoiling turn up new earth and loosen the soil so that the roots may penetrate. This mode of culture improves stiff clay soils, but it would injure light and sandy soils such as piney woods afford; you would break up the pan and your soil would neither hold manure nor water.

Drainage is another mode of mechanical improvement, not only by taking off superfluous water, but the soil is rendered warmer, dries out sooner after rains; is sooner cultivated in the spring of the year, and the plant grows off more readily. Your low grounds are the last to be planted in corn.

After rains, also, the water sinks in the ground, carrying along the fertilizing principles absorbed in its descent through the atmosphere. Drainage diminishes fogs, so detrimental to some kinds of crops; and last, but not least, is conducive to health and saves doctor's bills.

[TO BE CONTINUED.]

Peruvian Guano and Ground Bone.

An inquiry having been submitted to Prof. S. W. Johnson, as to which fertilizer, Peruvian guano or flour of bone, is the best on clay loams for root crops, that gentleman answers through the *N. Y. Tribune*. After saying that such question can only be discussed, not answered, since trial on the particular land and crop only can settle them, he makes the following comparisons and contrasts:

The two fertilizers are, speaking broadly, rather alike, as their value lies practically in their phosphoric acid and nitrogen. They differ, however, greatly in the proportion as well as in the condition of these elements. Last spring I could get in Connecticut for $75, a ton of the best Guanape guano, and for the same money two tons of the best bone dust, fine ground (all passing 1-16 inch holes and 54 per cent. passing 1-50 inch holes,) and pure. In $75 worth of guano I should obtain 320 pounds of phosphoric acid, worth 9 cents a pound, or $28.80, and 190 pounds of nitrogen, worth 25 cents per pound, or $47.50. Total value $76.30. In $75 worth of bone dust I should get 900 pounds phosphoric acid, worth 5½ cents per pound, or $49.50, and 132 pounds of nitrogen, worth 20 cents per pound, or $26.40; a total value of $75.90. The values employed for this calculation are those adopted by the best German authorities, and serve perfectly in our comparison, however they may differ from our just market rates.

It is thus seen that guano is chiefly valuable for its nitrogen, and bone dust for its phosphoric acid. More exactly, 62 per cent. of the money value of guano lies in its nitrogen, while 65 per cent. of the money value of bone dust lies in its phosphoric acid. As we pulverize bone to "flour," we increase the value both of its nitrogen and phosphoric acid, and when we render bone as fine as Peruvian guano is, its nitrogen and phosphoric acid become nearly but never quite as active as the same elements in guano. But a ton of bone flour cannot come nearly to equal a ton of Peruvian guano in money value, because nitrogen is worth three times as much money as phosphoric acid, pound for pound and grade for grade. Not having at hand the price and analysis of bone flour, I cannot make a closer comparison of commercial values.

As to the effect on root crops, that will depend on a variety of circumstances. As I have had frequent occasion to say, if the soil is deficient in nitrogen, other things being equal, the guano will be best, because it gives relatively more and absolutely better (i. e. more active) nitrogen, while if phosphates are deficient, the bone dust will be best. When land is in the good condition it ought to be for root crops, either guano or bone will be a good fertilizer, because in such a soil there is enough food of all kinds to make a fair crop, and the use of the guano or bone is to push the growth so as to make a large or very large crop. If under such circumstances we manure with nitrogen, that nitrogen enables the crop to obtain more phosphoric acid from the soil, and, on the other hand, if we dress with phosphates, these enable the crop to obtain more nitrogen from the soil. So it might happen that with the two fertilizers used separately on adjoining plots, the crop would be equally increased by both.

Under given circumstances the nitrogen and phosphates of Peruvian guano are adapted for more ready absorption by vegetation than the same ingredients in bone. Both fertilizers require water and warmth to decompose or dissolve them, but guano decomposes or dissolves more rapidly than bone. It hence happens that the season favors or hinders the economy of these manures. In a hot, moist time bone acts rapidly enough, and a maximum dose of guano, if not most minutely distributed, may damage the crop, or at least run itself, in part, to waste. During cool or dry weather bone may remain inert too long, or in too great proportion, and thus prove more or less a failure, while guano may yield its nutriment, at equal pace with rapid growth, be perfectly economized, and greatly surpass the bone under similar conditions. For a similar reason during the same year, bone may

do better than guano in warm, open loam; and guano better than bone in colder, close-textured clay.

It is, however, a fact that nitrogen generally tells better on crops than phosphates. Turnips, especially, when early sown in light land, are an exception. They are most vigorously pushed by the phosphates, especially when the phosphates are soluble, as in genuine "superphosphates." In poor soils that are deficient in lime or potash—both largely required by root crops—guano and bone, though helpful, cannot make a crop, and cannot be used to advantage unless lime and potash be also supplied in due quantity. In general it is best to put the manure where the plant will find it most readily, and that for drilled root crops is in the drill, but it should be well mixed with earth and put within easy reach of the young plant, and a good start is a main thing to accomplish with all active fertilizers. To broadcast guano on ground for hoed crops is to manure weeds. Only in case the land be poor or worn is broadcast use of guano (better bone) advisable; the same to be well turned under and intermixed with the soil, and then a little more bone (or, better, guano,) in the drill.

Premium Crop of Wheat in Montgomery Co., Maryland.

The Awarding Committee of the Montgomery Co., Md., Agricultural Society makes the following report on the contest for the best five acres of wheat, for which a premium of $50 had been offered, provided the product was over 30 bushels to the acre. The crop is very creditable to the skill of the grower, and the yield has probably seldom been equalled in the county. The following is the committee's report:

The premium offered by the Agricultural Society for the largest crop of wheat raised on five acres of land, was awarded by the committee, at the late fair, to Mr. Arthur Stabler, who raised on five acres two hundred and ten and one-half bushels by measure, and two hundred and twenty and ten-sixtieth bushels by weight, making an average yield of forty-four bushels and two pounds per acre.

Mr. Stabler, in his statement, says: The land was moderately covered with manure, which was plowed under in September, 1875, with two-horse plows, plowing about seven inches deep; it was thoroughly harrowed and rotted and put in perfect order, and drilled at the rate of seven pecks per acre. It was Fultz wheat and sown on the 4th of October. The fertilizer used was a mixture of Guanape and dissolved bone, in the proportion of one to three, and put in with the drill at the rate of five hundred and sixty pounds per acre, and at an average cost of thirteen dollars per acre.

The premium for corn crop will not be awarded until next January.

THE COMMITTEE.

This is doing well for old Montgomery—a county which not many years ago was considered, agriculturally, one of the poorest in our State.

On Wheat-growing.

Mr. J. R. Thigpen, a farmer of Edgecombe Co., N. C., noted for his enterprise and success, contributes the following to the Tarboro' *Southerner:*

It is truly gratifying to see the farmers generally seeding wheat, and in order to assist and encourage young and inexperienced planters I will endeavor to answer some questions put to me of late.

1. When is the right time to sow wheat?
2. Is it too late to seed in December?
3. What quality of soil is best to plant on?
4. Do you break the land and harrow the seed in, or do you sow the wheat and plow it in, in the usual way?
5. What variety of seed do you prefer?

In answer to the first question I feel confident I shall differ from a majority, if not all wheat growers; because it is thought to be absolutely necessary to harvest a good crop one year with another, the wheat should be seeded early enough to root so firmly as to stand the freezes of winter.

If I were to plant a late variety of wheat then I would prefer to seed the last of September or the first of October. On the contrary if I were to plant the earlier variety (as I do) then I prefer to seed it in December.

Experience has taught me that the earlier varieties, when seeded too soon, are very often blighted in the spring by frost, while in a jointing condition; while the same wheat sowed in the same quality of soil in December produced heavy crops, as it was not far enough advanced in growth to be injured by frost in the spring.

In answer to the second question, I will say that the two past years the last work done on the farm each year was to seed the wheat, and the result was all I could ask.

To the third question the answer to one and all: you need not have any fears so far as the soil is concerned; provided you seed land that produces good cotton. It makes no difference whether sand, loam, or clay.

Wheat grows better after cotton than corn.

In answer to the fourth question, if we were to seed in September or October, we would prefer to break the land sown, one bushel of seed to the acre and harrow it in; but in December we prefer to sow the wheat, and plow it in by plowing shallow and at the same time break the soil as well as it can be done. Our reason for this is, it would not be so likely to be killed by freezes, while coming up or in a germinating state, as if harrowed in. After the wheat is ploughed in, the ground ought to be leveled off by the use of three poles drawn by two mules. For instance, take three poles about the size of stack poles eight feet long, and bore a hole about one foot from each end of these poles; then place the poles about eighteen inches apart; then run a rope through these holes and tie a knot in the rear of each hole which will keep the poles an equal distance apart; let the rope be long enough to form a sufficient bow in front to hitch the singletree to, then gear two mules to it; the man may get up and ride; nothing to do but go ahead, as this leveler seldom ever clogs up.

In answer to the last I prefer the earliest variety. In 1863 I was up on the Catawba river, and as wheat and oats were a specialty with the farmers in that section, I endeavored to ascertain the best varieties for different soils and climates. From the best information I could obtain, I was led to believe that the earlier the wheat the better. While up there I purchased the Red May wheat; the grain was small but sound and plump. At first sight I objected to this wheat, but Maj. Zenos Greir, who had raised wheat in the Eastern part of the State as well as West, told me to take it, as it was the best wheat for my section. I seeded 27 acres by estimation, and housed, in 1865, 557 bushels averaging 60½ lbs. per bushel.

Cotton planters, raise your own wheat, oats, grass, mules, cattle, hogs and sheep, for if the cotton belt in North Carolina had only the freight they have paid transportation companies since the war in these articles, it would amount to more than the present crop of cotton.

Market Crops for Small Farmers.

Mr. J. B. Root, in his *Garden Manual* for 1877, has the following chapter, containing some suggestions which may be useful:

In the vicinity of every town are owners of small farms whose land is too high-priced to be devoted to ordinary farm crops, and who themselves have abundant time, and can always provide a few acres in good enough condition for the coarser crops. The large number of queries from such make me believe a few hints thereon may be timely.

In the East, such furnish a large proportion of the supplies for the large cities, of the kinds which they raise, and are known as Farm Gardeners or "Truckers," in distinction from Market Gardeners—those who raise a full line of vegetables, and more especially the finer and more difficult ones.

By the use of town manure in addition to his own, and judiciously laying down a few acres of clover every year to be turned under the second season, a portion of the little farm will always be in condition for good crops. If butter be the principal product of the farm portion, the question of fertility will more easily be settled, especially if sowed corn for fodder is appreciated and grown properly and plentifully.

The first to suggest themselves to the beginner must be those most nearly like farm crops, and least perishable, and most easily marketed. Early Potatoes are often very profitable and always paying. They involve little risk, leave the ground for a second crop, and can be kept for a late market if not sold earlier. Late Potatoes, while less profitable, usually pay.

Winter Squash does not demand much hand work, and since it sells by the wagon-load is a very good one. Any poor specimens, or unsold portions of the crop, are worth more than the cost of production for feed. Melons also sell in large quantities, and are not exacting as to soil or culture. So many are deterred from growing them for fear of melon thieves, that the price is good and demand active.

Late Cabbage is another crop that pays well when grown properly. It delights in a decaying sod and abundant culture. This should not be grown largely until the grower has "got the knack" of it, so to speak, nor until he understands the markets. Its advantages are that it produces immensely to the acre, and is marketed in bulk, and all waste is serviceable as feed. A cutting of clover can be taken from the ground before setting out the crop, if the soil be rich enough to spare it.

Turnips—the early flat sorts—are raised very easily, if soil and season be favorable, and often can be sold at a round price if the market be watched. They are worth twice their cost for feed. The Ruta Bagas demand more labor, and should not be undertaken till some acquaintance with the business is acquired, but they command a better price, a freer demand, and will keep till June. Those not sold serve an excellent use for the stock of the farm just before grass is abundant.

Perhaps more is said in agricultural papers, and beginners more generally look at once to the onion crop than any other. It demands a better soil than any before mentioned, and a considerable hand weeding, and no man should enter upon it largely at once. On the other hand, it yields enormously to the acre, is always in demand, and is not seriously injured by slight freezings, etc. Many a handsome farm has been paid for, and many a snug competency secured and maintained, by a well-tended onion bed. But it has been by men who thoroughly learned the business, growing into it from small beginnings, and raising about so much every year, whether the market be up or down. The onion crop fills no place in the economy of the farm, and is available for market only.

Beets, Carrots and Parsnips will all be found good crops to raise under favorable circumstances, as being such as sell in large lots, not immediately perishable, and are profitable for farm feed.

Cotton Seed.

From an article in the *Farmers' Vindicator*, by our esteemed occasional correspondent, Mr. L. A. Hansen, we make the following extracts:

Heretofore our farmers have principally only known the value of our cotton seed as a fertilizer, and although all are convinced of its merits in that shape, many, without having made a sufficiently accurate estimate, think it pays as well to sell it at from $4.00 to $6.00 per ton. Let us assure those that cotton seed, in its raw state, properly applied, and in sufficient quantity, say one ton to the acre, will increase a crop 33 per cent., and thus pay the very first year about $8 per ton, leaving the soil in so much better heart, that his next crop will be benefited at least 20 per cent. But, important as cotton seed is as a fertilizer, still it can, in a manufactured state, be applied on the farm to a very much greater advantage. We mean the cotton seed meal. As few of our brothers may have made a trial, and experience in general is wanted on this subject, we give here the result of a trial, made by one of our most intelligent brother farmers:

He bought on November 1st last year, eight steers and three barren cows for from $15 to $17, averaging $16 per head. They were fed up to March 9th, and received on an average each—

1,000 lbs. cotton seed meal at $22 ₩ ton	$11.00
The product of ¼ acre of turnips	5.00
Product of ½ acre of barley, used green in Feb.	5.00
Pea vine hay and attention paid for by manure	00
Total expense	$21.00
They were sold on March 9th, for $80 per head all round	80.00
Net proceeds	$59.00

Besides he received cash for his turnips and barley on the farm without having the trouble and expense to market those articles. So, in reality, his only cash outlay was eleven dollars per head for cotton seed meal, thus giving him a cash return of $59 per head. Can any of our brothers point out to us an investment that pays better; can any one, in the face of these facts, undervalue the great merits of cotton-seed meal; for all the other feed those cattle received would not have produced half the flesh they did in combination with the cotton seed-meal. Our English friends know it, and at present pay, with pleasure, $35 for every ton of cotton-seed meal they can obtain, for feeding purposes.

Before leaving this subject we would call the attention of our brothers to the importance of the manure produced by feeding stock thus high. The manure of such stock is worth exactly 200 per cent. more than manure dropped by fill-fed cattle, and the quantity is double. In possession of such manure the farmer is master of his farm; he can dictate his farming operations with impunity, for he has the motive power at his control. With plenty of good manure the farmer is not bound to any fixed rotation, but can sow and plant according to demand of different products. Money makes a man independent to a large degree, but manure emancipates the farmer still more; for it is a capital that increases at the same time you draw on it.

Raw versus Cooked Roots as Food for Cattle.

Dr. E. Wolff, German chemist, reports the following experiments in feeding roots to cattle. Two cows were experimented on, which together weighed 1,650 pounds. They received daily during the whole time, 8½ pounds of hay, 31 pounds of oat straw, 4½ pounds of rape-seed cake, 4½ pounds of lentil straw, and the roots mentioned in the following table, which also gives the weight of butter and milk produced in the several cases:

Week of Experiments.	Food. Pounds.	Milk per Week. Pounds.	Butter. Pounds.	Milk to 1 lb. Butter. Pounds.
First, raw beet	82½	248½	8¼	30
Sec'd, raw potatoes.	82½	282½	6¾	42
Third, cooked beet.	123½	288¾	9¾	30
Fourth, cooked potatoes	82½	243½	9¼	27

From the above it will be seen that the cooked potatoes greatly increase the butter without adding so much to the volume of milk as the raw ones, which made the milk of a thin and watery appearance.—*Agricultural Gazette.*

Correspondence.

True Success in Farming.

The Farm of G. F. M. Walters, of Fairfax Co., Va.

Messrs. Editors American Farmer:

It is an easy matter for the purchaser of exhausted soils that have been fertile to restore fertility, if he possesses sufficient capital to give it necessary drainage and plant food, lime, magnesia, phosphoric acid, sulphuric acid, potash and nitrogen.

By this means he soon gets a "set" of clover that not only furnishes nitrogen, in the form of ammonia, but vegetable matter, bringing the soil to its virgin state in reference to mineral and organic matter.

But it is a very different achievement to accomplish the same result without capital to make the purchases, erect buildings, fences, plant orchards, &c. It is still more difficult to do these things and support and educate a large family at the same time.

Yet all this can be, and has been, accomplished by Mr. Walters at his now-beautiful home at Langley, seven miles from Georgetown. In the words of Mr. Walters, he purchased his "home-farm of 108 acres in 1845, at twenty-one dollars per acre, paying one-third cash and the balance on two and three years.

It was worn out, no buildings, fencing or ditching. It did not produce hay enough the first year to feed two cows and two horses. The first two or three years I made but little on it, and paid little attention to it. I was building my house, and, being a mechanic, was building houses for other people.

I commenced the improvement of the soil by liming and ditching. Hauling shells and burning on the farm was continued two years.

I then bought lump lime (fresh from the rock) at sixteen cents per bushel, and hauled from the Chain Bridge (three miles) which I used till 1860. I applied this lime at the rate of 35 bushels per acre on corn ground after plowing in the spring. In autumn I sowed the same in wheat, using 150 pounds Peruvian guano per acre. In the spring, seeded down to clover, the following spring applying 150 pounds of plaster per acre; cut the clover in June, and let the second crop of the same summer remain on the land. Pastured it the next year in May and June. In August plowed it under, and in the fall sowed in wheat, using 150 pounds of guano per acre and sowing one gallon and a half of timothy seed, and in the spring one gallon of clover seed per acre. I let this remain in grass, mowing every summer, pasturing in fall, and applying 150 pounds of plaster per acre every spring.

The farm is divided into five fields of 20 acres each. Orchard and garden embracing about eight acres. I have recently raised over 20 barrels of shelled corn, 40 bushels of wheat and two tons of hay per acre. These are some of my best crops.

I have used lime, bone and guano, and consider lime the base of improvement, the main stand-by, and the cheapest of all fertilizers. I now buy

limestone, haul it, and burn it in pits on the farm. My dwelling was burned in 1867 and rebuilt in 1868."

Such is the plain narrative of the means of renovating the soil in Virginia.

Had every farmer in this State and in Maryland pursued the same course since 1845, valuable lands would now be more valuable, and wide districts, now lying in waste, would long since have been reclaimed, and palatial mansions, beautiful lawns, and golden harvests, would now cover the desolation of abandoned districts, dilapidated homesteads, and cold, unfenced, uncattled broom-sedge and briar fields.

Mr. Walters has shown the possibilities even in the reach of the poor, and made an example that justly entitles him to the position assigned him by the farmers of his county and of Montgomery Co., Md., adjoining, of The Model Farmer. They know he has raised and educated a family, erected a magnificent dwelling on the ruins of his burnt home, has stocked his lands with the best breeds of animals and the most approved implements of the day. This farm is well worth a visit to those desiring to see all that is beautiful and comfortable in rural life. I saw the tallest and finest specimens of small grain on this farm that have probably ever grown in the country, for I looked in vain for their equal at the great centennial exhibition.

Mr. Walters' farm was assessed three years ago at one hundred and twenty-five dollars per acre, and is doubtless worth more. Lands remaining near him in the unimproved condition in which he bought his, in running briars and naked spots, were assessed the same year at twenty-five dollars per acre.

They seem to have increased four dollars in value since 1845, and that purchased and farmed by Mr. Walters one hundred and four, according to last assessment.

Mr. Walters says he makes and saves as much barn-yard manure as he can, and spreads it evenly broadcast on plowed land, and thinks that by his method almost any land in his section can be made to produce very large crops and hay at the same time.

It is needless to say Mr. Walters is a patron and attentive reader of the *American Farmer*, and I cannot omit to say that he was the purchaser of the second McGinnis harrow ever made at the shops, and now has three of them on his farm.

I must close hastily and leave half unsaid that I wished to say about this farm for the future.

Shenandoah Co., Va. L. H. McGINNIS.

Labor and its Results.

Messrs. Editors American Farmer:

Be industrious, no matter in what sphere you move, or your calling. It does not require argument to prove its utility. There is as much difference between industry and idleness as there is between light and darkness, or between honey and vinegar. Industry leads on to labor and labor to wealth; whereas, idleness glides into laziness and it creates want and misery. The sluggard lies abed in the morning, whilst his industrious neighbor is up by times plying his hands and thoughts on something useful or ornamental, and is constantly on the lookout for some lucrative or honorable object. He soon attracts the attention of respectable persons, and should there be anything to be done, every one knows the individual who could or would do it. By his industry he has become easy in his circumstances and is growing rich, and is always cheerful, pleasant and obliging.

The story of the sluggard is soon told. He lets every opportunity of doing something pass by and is always left behind. He avoids the most trivial work; takes little or no exercise, and is half of his time asleep; everything goes to wreck. Soon he loses his property; his house is sold and he ends his days begging or in the poor-house. How different are the situations of individuals. While a few rise and prosper, how many sink and dwindle away. As with individuals so with communities. The industrious and laborious grow rich and independent. Their lands flourish and produce rich harvests. Manufactures flourish and bring wealth to the community. On the farms are superior cattle, horses, sheep and hogs. Labor flocks to them, and skilled mechanics find ready employment. In fact every one finds something to do, and industry is the fashion and labor is respected; it is needed and is rewarded. Men and women are cheerful, and, what is as good, healthy. Industry produces an appetite. Nothing is needed to aid digestion nor to induce sleep, which invigorates the system. The moral status of the community is high, and peace, health and comfort abound.

The land that has health, plenty, contentment —all willing to lend a hand, and labor,—is bound to flourish. Labor is needed in everything. It is the foundation of wealth and honor. Well-applied labor is never in vain. All enterprises are achieved by it. The man of education had to labor, and by it he is enabled to direct the bone and sinews of the laborer.

Our railways and canals are marked out and perfected through labor. Dwellings and the various structures of art and commerce are reared by it. All honor to the laborer, and he who has risen by it; at the same time it is dwarfed unless it is strongly allied to virtue.—Capacity should be attended by honesty. The head level, the arm strong, the heart large and in the right place. "'Tis worth that makes the man; the want of it the fellow." RUSTIC.

Farm Refuse.

Editors American Farmer:

The late Louis McLane called my attention to the contrast between the rural economy of Europe and America, by expressing the opinion that the waste products here on any farm would support a family in England, where he had been employed as our minister. But at that time the waste of refuse—apart from other products—would have supported a family in America. When manure accumulated it was customary to prefer the removal of the stable in some of our Western States, and even in New York it was thrown on the ice in the Hudson. The captain who brought the first "bone mill" to this country told me that it would not pay in the city of New York, and the man who ground bones in Balti-

more, at the instance of an enterprising gentleman on the Reistertown turnpike, supplied them to him at figures which enabled him to "dump them" on his land as stable manure, "thus producing such a rank growth of wheat that it was necessary to pasture it in the spring."

More recently, and within twenty-five years, the soft bones of animals and other pure animal refuse accumulated in Baltimore, though offered at 14 cents per bushel; but within one year this same material was barreled and sold at about 75 cents per bushel in the form of a compost, made without any cost as to chemicals or temperature. Such refuse is usually wasted on farms, because the proportion that occurs at any one time is too small to authorize a systematic effort to convert it into manure, such as the one referred to. A dead horse is thus capable of yielding eight dollars in France, and before the next "centennial" is observed the rural economy here must necessarily equal that of any part of Europe, unless the inevitable result of decadence in morals should terminate in those political changes which have been demonstrated in Palestine and many other lands of equal promise. All theories must succumb to what is called "practical experience" on the farm. The *average* result during seven years, whether with reference to any crop or manure in any locality, will exhibit all shades of opinion. Some of our most intelligent farmers are now very doubtful as to the benefit that has been derived from the reaper, mower and thresher. Moreover, their arguments are *much* more plausible than any which have assailed the concentrated fertilizers, or the improvements of the last decade that have been made in that relation. We ridicule the old alchemists for attempting the transmutation of metals, but my personal experience with these machines during many years convinces me that the manufacturers of sewing machines do not deserve all the credit for converting iron into gold, and especially in the supply of wheat are termed "extras." More than twenty years of experience and observation endorse the results obtained in Europe, viz: that not more than three bushels of wheat per acre can result from the application of *any* or all of the elements of "*soil* plant-food," however profuse the application. The ashes of wood or animals, including their bones, contain all of the elements referred to; consequently it is abundantly demonstrated that these manures cannot pay unless they happen to be applied to some locality which contains an excess of ammonia over the average supply from natural sources, which is found to be the equivalent of three bushels of wheat annually, as above indicated. The application of ammonia alone will inevitably impoverish many soils or hasten the removal of even the natural supply of "the soil food." When Peruvian guano was supplied at $30 or $40 per ton, many farms were impoverished by the profuse application of this, which has always been *really* the cheapest source of ammonia for agriculture, regulating its price in every other form. Red clover, or the farm refuse derived therefrom, will always hereafter be regarded as the most economical substitute for Peruvian guano in this relation.

DAVID STEWART, M. D.

Delaware, 14th Dec, 1876.

Seasons and Crops in West Virginia.

Editors American Farmer:

Here, in West Virginia, the seasons were good, the winter mild—the farmer enabled to work out and prepare for the spring. The spring was early, the weather mild, and the farmer put in his oats and corn in good time. It was seasonable; corn, oats, wheat and grass grew finely. The harvest was good. It was a good thing, because the crops of the previous year were rather indifferent. Money, in consequence, was scarce. Although prices have not much advanced, farmers have curtailed indebtedness, and are a little better able to pay taxes, &c. After the war, in many places, destruction to property had been considerable. Many a man had to make a second beginning; had everything almost to buy again. Prices were high; money was scarce, because there was not much to sell, and those that borrowed paid high interest. The prices of produce did not remain high long, and then succeeded shrinkage in prices of produce—often lands and all kinds of property. Farmers have stood up manfully under every kind of pressure. They have clung steadfastly to hope, and have not remitted in perseverance, and their trust is in the good time to come. It is a long lane that has no turn or end. When the people shall all see how to improve matters they will put their shoulders to the wheels and push through the swamps and quick-sands of adversity, and get matters high and dry; then make a long pull, a strong pull, and a pull altogether. Prosperity and plenty then will surely return. If good times are needed by all, let all help to bring them about. The papers say that other countries are going through pressures. If so, that might alleviate the severity of our feelings. But the question is, what must we do? Let bygones be bygones; let us look to the future with determination and improve on the past. If we have not been sufficiently industrious, let us wake up. If we have been too lavish, let's spend only for what is indispensable. If our system has been erroneous let us modify or change it. Prudence and perseverance have hitherto done much. Get out of debt; try the cash system; it may be hard for a while, but sure to prove successful in the end. "The way to keep your credit up is to pay the money down."

C.

Jefferson Co., W. Va.

Sheep and Dogs.

A farmer in Campbell Co., Va., an English settler, sends us the following. In that State, as in our own, it seems impossible to influence the average legislator to take any step for the welfare of the farming interest until action can no longer be postponed. We hope yet to see the day when our farmers will have again, as of old, their fair share in law-making.

Here is an intelligent, enterprising farmer, whose own experience is such that, owning land he cannot utilize, he distinctly refuses to recommend other immigration because of the lack of

protection to property that must be submitted to. How long shall such a state of things exist?

Dear Mr. Editor: I send you my subscription for the *American Farmer* for the year 1877. I am very pleased, indeed, with your paper, which has many valuable hints; but you really must use the influence which your journal possesses to enable farmers to keep sheep, by putting on, or rather causing the Legislature to put on, a stringent tax on dogs and guns. I cannot keep sheep, although I have land in every way suitable for it, as you are aware that it is not only what the dogs kill, but ewes cast their lambs, or have premature births, when frightened by dogs. Virginia, I see, to her shame, is actually obliged to *import* wool. This country is better adapted for sheep-raising than England, because it has good water and shade in every field, but farmers are quitting sheep-raising on account of the negro and his dog. Your paper is always crying out for immigrants from England. I tell you candidly, no friend of mine, if I can stop it, shall come out here to see his sheep killed under his eyes. I remain, yours truly,

RICHARD WILLIAM KEEP.

Our French Letter.

Dutch Cattle.

Messrs. Editors American Farmer:

It is natural to expect, that with a humid climate and a soil generally alluvial, Holland ought to have a breed of cattle to correspond, and that milking rather than fattening qualities ought to be the predominating characteristics of that race. Such is found to be the case in practice; Dutch cows are large and heavy, are excellent milkers, and put up flesh readily. It is a curious custom of the country, that while the milking qualities of the local races are not so excellent as in former years, farmers pursue a strange method for upholding these qualities. They give as little nourishment as possible to the calves, in the belief that this plan prevents precocity in running up fat; they send the heifers to the bull when very young, and pending the period of gestation the animal is liberally fed. The average yield of milk of a Dutch cow is about 660 gallons per annum, and oftentimes as much as 850; the proportion of butter is about 5 per cent. The average weight of a fat cow is from six to nine cwts. The construction of the sheds is curious; the buildings consist ordinarily of double walls; the separating space is filled with straw or rape stems in summer, which diminishes thus the excessive heats of that season; there are also apertures ten feet from the ground for the admission of fresh air. In winter the space between the walls is filled with turf, and only so much air admitted as is requisite for ventilation. The apertures are provided with green curtains to exclude insects and excess of light. The cattle are partly grazed and partly house-fed, and there is a decided objection to the introduction of other races—Durhams for example—for crossing purposes. Besides, Holland claims to be the cradle of the Durham breed. Improvement of races is kept up by the scientific selections of the best specimens of local breeds.

Raw and Cooked Food—Preserved Corn.

It is found that for fattening purposes, cooked are preferable to raw potatoes; but milch cows yield more milk when fed on them in the latter state. French farmers complain they do not find the cost of cooking pays, so adopt a middle course: that of giving the potatoes raw, and in reduced quantity, mixed with other roots. The plan also has been found to correct the tendency which raw potatoes have to scour the cattle. The use of trench-conserved fodder is making rapid strides, and with the most beneficial effects. Red clover cut in June last, and placed in an ordinary trench three feet deep, well trampled down and then roofed with earth so as to exclude air and rain, has been given to cattle, that eat it with great avidity, the early days of this month almost as fresh as when first packed. One farmer is so enthusiastic that he never intends again to convert his clover into hay. The indefatigable M. Goffart has this autumn conserved 18 acres of giant maize in trenches, and which produced 80 tons of green fodder per acre. He has a machine that cuts the green maize at the rate of 150 lbs. per minute, and requires three men to feed it; the same machine is arranged to convey the chopped stuff to the trench where women trample it down; 2 lbs. of salt are added per ton of fodder. One ton of this preserved food costs when extracted from the pit, at the rate of fr. 4½; now the ration for an animal is 80 lbs., so that the price of the feed is but three sous a day. The total quantity of food, for a year, for an ox, is estimated at 13 tons; thus one acre of green maize can support some five head of stock.

Cattle Insurance Companies.

Cattle Insurance Companies in Germany have not proved successful; those that have not failed are being wound up. The causes are attributed to insufficiency of capital, too high indemnities, and too low premiums. The large patronize these societies less than the small farmers. Indeed the agricultural situation of Prussia is not cheerful; every proprietor seems to be advertising his lands for sale.

Ground and Whole Grain.

The old question is being again agitated as to the advantage of giving bruised or minutely divided food to animals. It is argued, that it is essential that the food should sojourn a certain time in the mouth to be impregnated with the saliva; thus grains easily masticated are best utilized when mixed with cut fodder. Many farmers decline giving oats in any other but the whole state, to horses and sheep, so long as these animals are vigorous and in full possession of their masticatory organs; and to secure their better digestion, they are mixed with cut straw. Animals in the growing stage, when supplied with beans, peas, &c., receive this description of food after being preliminarily softened by steeping, or coarsely cracked. For cattle with bad teeth or weak digestion, the food ought to be bruised. Grouven & Lehmann recommend that, for pigs, cereals ought to be broken and mixed with matters difficult of digestion, so as to compel a long retention in the mouth. Dr. Weiske has found, that grains which have passed entire through the system have not, contrary to the general belief, undergone any serious chemical

change. It is a good practice to give some mill refuse with it at the same time, or meadow hay, or brewer's grain. Respecting the latter, the Vienna brewers now convert the grains by great pressure into cake, previously mixing other matters, such as crushed barley, and malt sprouts; the compound is nutritive and much relished by cattle. F. C.

Paris, Nov., 1876.

From Our Corresponding Editor.

"The Farmer Feeds Them All."

Every calling, profession and pursuit, is supported by the farmer. He feeds all nations and peoples. If he is skillful, educated and successful, trade prospers; the white sails of commerce and peace float busily over the seas; the myriad looms and spindles of our factories, the forges and anvils of our shops and foundaries, put forth their full strength, and make all the air resound with their din!

The skilled artisan and mechanic, with plenty before them, ply their busy hands and exercise their acute brains to bring out of chaos things of use and beauty—contrivances to lighten labor and further prosperity. So, too, in the sunshine of the farmer's prosperity, all pursuits bask and flourish; and the nation of great farmers becomes great.

If the farmers of a nation lack skill, science and education—requisites for successful culture—the soil locks up its treasures; then commerce, the great industries, trades and professions, all languish, and the nation is in woe and want. Agriculture, then, may be regarded as the basis not only of individual comfort and success but of national greatness. A glance at the status of nations will at once show that in proportion to its agricultural advancement and skill, is it classed in the eye of the world. England, France, Germany, the United States, of modern times; and Greece and Rome, the "mistresses of the world" of ancient times—all of advanced agriculture,—how infinitely above the lands in which this great industry languishes! Speaking of Rome, we cannot forbear giving an extract, showing the estimation in which agriculture was held by that nation in palmiest days: "Among the Romans, agriculture was held in the greatest esteem. Cato in the second and Varro in the first century, previous to the Christian era; Vrgil, at the time of the birth of our Saviour; Palladines, Pliny and Columella, have all extolled its excellencies. Several of the noblest families of Rome derived their patronymics from some vegetables which they were famous for raising, such as the Fabii pea, Lentuli, Cicerones, etc. These were the days of Roman agricultural glory. Cato says that when they praised a good man, they called him an agriculturist and a husbandman, and it was considered a great honor to be thus spoken of. Cincinnatus, who flourished 460 years before Christ, was the plowman of his own four acres; and when the Sammito ambassadors visited Curtius Dentatus, they found him at work with his vegetables. Cato says: 'Study to have a large dunghill; and to this I would add, treat your dumb laborers as inferior brothers, 'deprived of speech.'"

How important, then, that agriculture should be fostered and encouraged; that the aged veterans of the plow should be honored for their work's sake, and the young taught to respect and take pride in the calling. To its praise Virgil sang his immortal Georgics and Cato his highest philosophy. Should not the veterans of agricultural literature meet every encouragement in their good work from a grateful people?

Three Things to Do.

He is said to be a benefactor to his race who causes "two blades of grass to grow where but one grew before;" this being true, there are several ways by which farmers may secure a tenfold production where but meagre nutritious vegetation now appears.

Many ditch banks are now unsightly from tangled briars and weeds; let these be dug up and thrown ten or twelve yards into the field and there burned; then let the bank of the ditch be thrown as far as convenient with hoe and shovel towards the burnt mass, and the next crop, with good cultivation, will amply repay the labor, and leave, for years to come, a garden spot of decided beauty, verdure, and fertility up to the ditch's edge.

Is there a hill-side wash defacing your field, fill it with decaying logs, bark, leaves and straw, and over all a layer of soil; then for water vent, dig a trench, placing the dirt compactly on the lower side, descending the hill with as gradual a slope as possible, after which so arrange your rows as to allow the waters to pass off through this trench with as little descent as may be. In a little time the decaying *debris* will make the ghastly chasm a cheering view of golden grain or snowy cotton, while the conquering farmer will feel that he has not only enhanced the value of, but beautified his landscape and curbed the fierce torrents to his will.

Is there a dense forest bordering your farm, whose searching roots eat out the fertility of your fields far inland? Cut a trench a spade's width and two feet deep, bordering your fence,—thus cutting the roots,—and next year and years afterwards the crowning crops, abundant and thrifty, will look defiance at the forest and its shade.

Now is a good time to do these things, and the reward in every instance will be sure.

Another Report on German Millet.

Mr. B. Mc. L. Hardisty, an intelligent farmer of Baltimore county, and one of the members of the Gunpowder Agricultural Club, informs us that his experience with German Millet as food for horses and dairy cows is not so satisfactory as that of others heretofore recorded in our pages. His crop grew finely and yielded heavily; it was cut before the seed matured and the hay is not hard nor harsh, but his animals refuse it unless it is mixed with good hay. Four of his cows, fed upon it, fell off five pounds in their butter yield in one week. Mr. H. is so much disappointed with the plant that he intends returning to Hungarian grass and the ordinary Millet.

Live Stock.

Fattening Hogs.

Messrs. Editors American Farmer:

In reading your last issue, I was particularly interested in the experiments in feeding hogs cooked *vs.* uncooked food, corn *vs.* meal. My impression is that much depends in such experiments on two things—the breed of the hogs and their age and condition at the time of the experiment. Ten-weeks pigs will not gain in weight as older hogs, say ten months, (40 weeks.) Growth in development and structure in pigs of a few months cannot be compared with the gain in fat of well-developed old hogs as to time and food consumed. This is an error frequently made in these experiments. Water and meal—dough cold, with a little salt, I consider two feeds daily, with one of shelled corn in clean troughs, to be the most rapid way to pile on the fat. Hogs from the woods ranges, thin in flesh, are most rapidly brought into condition for fattening by one good ration of boiled food daily. Hogs fed continuously until slaughtered, on boiled feed or slops, never make solid, firm bacon and lard like the cold corn or dough-fed.

Thirteen ten-months pigs, recently salted down for my own use here in town, weighed 1656 lbs., and weighed each 100 to 185 lbs. The latter was a pig raised in town and sent home twenty days before killing, to be meal-fed. Had intended to feed this pig until January, but he grew fat so rapidly as to *sit* like a dog to eat his food, and I concluded to let him go with the twelve fed since September. In January, I propose killing the hogs that gleaned the fields of peas, peanuts, &c., which will be used for farm hands, and surplus sold.

There must be some error in the statement of Mr. J. M. Billingsly about his 20 hogs. The idea of a hog weighing (say 10 hogs 2,200) over 200 lbs. fed all the corn he will eat and gaining only 1 29-100 'lbs. or 1.46, nearly 1½ lbs. per day: say 14 lbs. pork per day x 6=84 cents. Certainly would eat 10 pecks corn—2½ bus., at 40 cents—$1. Now, where is the profit? Now a 200 lb. hog will consume easily 12½ lbs. meal or more, or 14 lbs. corn per day. In the other experiment of Mr. Bingham you find 12 lbs. gained for each bushel of corn. So if these hogs consumed 1 peck of corn each, they should have gained 2 to 3 lbs. to make a paying business, in lieu of 1¼ to 1½. Certainly an error here by somebody. My manager fed last winter 5 pigs, 7 months old, about 5 pecks daily for 21 days; actual gain 275 lbs.: say 26½ bus. at 50 cents—$13.12. One-fourth off 275 gross, is 207 lbs. nett; cost of pork $6.50, when pork was selling at 9½. Gain here was 10 lbs. for each bushel, and this I think may be taken as the average, and can't be had unless the pigs at the time of starting are in fine health, a good breed, and fat.

Exchange, Va. NANSEMOND.

American Association of Breeders of Short-Horns.

This body held its fifth annual meeting at St. Louis, December 6, with an attendance smaller than usual, but representative in character, and distributed from Canada to Kansas. The president, J. H. Pickrell, of Illinois, delivered an address. A paper was read by Judge Craven, of Indiana, which provoked a discussion as to what constitutes a short-horn pedigree entitled to record in the herd-book. The Convention took up the following resolution of Judge T. C. Jones, of Ohio, which was offered at Toronto last winter, and action upon it postponed until this session:

Resolved, That animals whose pedigrees show descent from imported ancestry, or as many as seven crosses of approved and recorded blood, are entitled to registry in the herd-book."

The following was offered by Claude Matthews, of Indiana, as a substitute for the above:

Resolved, That imported animals, whose descent show not less than five, and American cattle of seven crosses of approved and recorded blood, shall be entitled to registry in the herd-book.

Several amendments and substitutes followed, some wishing to lower the standard to four crosses of American cattle, and some to raise it to ten. The substitute of Mr. Matthews, however, was adopted.

By a subsequent vote the Association decided to rescind all rules adopted, and leave the editors of the herd-book free to record what they saw fit.

The election of officers had the following results:

President, Hon. David Christie, Paris, Ontario. Vice-Presidents, B. B. Groom, Winchester, Ky., and J. H. Kissinger, Clarksville, Mo. Secretary, S. F. Lockridge, Greencastle, Ind. Treasurer, Claude Matthews, Clinton, Ind.

NATIONAL VETERINARY BUREAU.

Mr. Glick, of Kansas, offered the following resolution:

Whereas, The live stock business of the United States involves interests to the amount of many millions of dollars; and

Whereas, The said interests are of enough importance to require the fostering care of Congress; therefore,

Resolved, That it is the duty of Congress to provide for and maintain a veterinary bureau in connection with the Agricultural Department of the United States, and that we respectfully ask Congress to establish such bureau, with such regulations as will inure to the benefit of the stock-producing interests of the people of the United States.

2. That the President of this Association is hereby directed to present a copy of this preamble and resolution to the Committee on Agriculture or other proper committees of Congress, with the request that Congress act favorably in the matter.

This resolution was discussed by Messrs. Sanders, Allen and Stevenson. The proposition of the last-named gentleman to make it a more general matter, say a "Cattle Bureau," was lost. The original motion was then put and prevailed.

THE BREEDER.

A motion to rescind the resolution adopted at the Toronto meeting, declaring that the owner of a dam at the time of her calving should be considered the breeder, was carried by an almost unanimous vote.

A resolution was adopted, declaring that the owner of a cow at the time of coupling shall be the breeder, and that the calf may be entered on the records as calved the property of the owner of the cow at the time of calving.

Now is the Time for the Farmer to Improve His Stock.

Blooded stock of good quality—horses, cattle, sheep and swine—will never, says the *National Live Stock Journal*, be cheaper than it is now. We speak of the great mass of well-bred stock, such as the farmer wants for use, and not of the few, that, for special reasons, have been selling at high prices. Thoroughbred horses have sold at $300 to $500; bulls of the best useful qualities may be had at $150 to $300; rams at $20 to $50; and boar pigs at $15 to $25. At these prices the breeders, with the best management, realize but very moderate profits; while the purchaser may, and frequently does, make the price of the animal from the services of a single year. And, in any event, the increased value of the progeny of such sires from common or grade stock will soon pay the expenditure. When a farmer has but little stock and thinks he cannot afford to buy such a sire for his own use, a little granger co-operation will help him out. He may unite one or more of his neighbors in the purchase, or, as we have known parties to do, in several instances, he may get his neighbors to agree to patronize the animal at a given price if the purchase is made. In one instance thirty men agree to breed at least one mare each to a thoroughbred horse, at $15 the season; and upon this written pledge a good, stout thoroughbred was purchased, that proved of great benefit to the neighborhood.

Every intelligent farmer will see that there is now no difficulty in securing good blood for the improvement of his stock, and all experience shows that he cannot afford to raise inferior stock—it will not pay for raising.

Stable Care and Ventilation.

It ought to be the duty of the stockman to see that all cattle that are kept constantly tied up should receive a thorough brushing daily. Stock accustomed to have their heads tied get dirty about the neck and shoulders, unless they receive a careful 'grooming.' Cleanliness is very essential for cattle always under cover, not only because disease is thereby prevented from making its inroads, but also because stock thrive better and reach maturity quicker when carefully tended than when they are not. Cattle kept in loose boxes do not, perhaps, require so much attention as those whose heads are tied in the stall or stable, as they can with freedom lick themselves, but they should not be neglected on that account; and the careful stock-farmer will do well to see that his stockman gives them proper attention. It frequently happens, however, that cattle do become very dirty about the body—whether from neglect or a natural predisposition to get dirty it is unnecessary to consider. In such cases a good remedy is to apply to the affected parts a mixture of fish oil and flowers of sulphur, in the proportion of 4 ozs. of sulphur to a quart of oil. This mixture should be vigorously rubbed into the body, and about 3 days after this has been done the affected parts must receive a good washing with soft soap and warm water. The oil and sulphur may be applied once more in the same manner as before, the mixture being made a little stronger should there be little observable improvement from the first washing. This mixture applied twice generally suffices to effect a complete cure of the ailment.—*London Live Stock Journal.*

Treatment of Young Horses.

Mr. Brady Nicholson, of Starton Grange, Garforth, at a recent meeting of the West Riding Chamber of Agriculture, Yorkshire, England, read a paper on this subject, from which we make the following extract: Young horses require, like all other young animals, good keep, and grazing upon pasture land that has been well boned. When I was at Newmarket judging greyhounds in 1845, the late Lord George Bentinct himself spread bone-dust on the grass where his young yearling race-horses grazed. Foals are better taught to lead as soon as taken from the mare, and their legs and feet handled. If they happen to meet with an accident, unless they have been haltered and led, they are very bad to manage. Young horses, like children, require kindness and firmness. The more quietly you move about them the better. Numbers of horses are spoilt by ill-treatment. Horses do know the person who behaves ill to them, and most of them, when young, will, after ill-treatment, give a parting salute when they have an opportunity. I also look straight at the eye of a horse when I go up to him. If he drops his ears back, I give him a quick glance; I speak to him, which draws off his attention from kicking. If a man walks boldly up to a horse, he will seldom lash out. Rarey's success was due to his nerve and knowing the proper tackle to put on a horse.

At two years old a young horse had better be mouthed and carefully handled a few weeks before turning out to pasture. At three years he should be broken—a most critical time. Much depends on the proper treatment, getting the horse with a good mouth and manner Should the horse unfortunately throw the breaker and learn wicked ways, he will try to do so again if he has the least opportunity. A man that rides a young horse should always be on his guard. When the horse is first saddled, run him up and down the yard till he gets used to the saddle. By adopting this method, and keeping your heels from touching him when first mounted till he settles down, many a fall and accident may be avoided. Very few men can sit a horse when he arches his back, as they feel as if they were sitting on a grindstone.

A Dip for Sheep.

A lady at Spartansburg, S. C., sends the *American Agriculturist* the following receipt for a dip for sheep as a cure for scab and ticks, which she obtained from a Scotch shepherd in Texas, who sold 16,000 lbs. of wool in one season in San Antonio. The dip is as follows: "Boil 25 lbs. of tobacco in 100 gallons of water, add 2 lbs. of sulphur, 1½ lbs. of arsenic, and 2 boxes of concentrated lye. The tobacco is boiled until the leaf is gone from the stalk, and the sheep are dipped in the mixture when it is only lukewarm.

Loss of Cows by Milk-fever.

Col. Geo. E. Waring, Jr., in his Ogden farm papers in the *Agriculturist*, says on this subject:

The proper percentage of loss by milk-fever is *precisely nothing at all.* It is possible that an old cow, whose race is run, may take this occasion for departing, but with an animal in good health I believe the disease to be due only and always to over-feeding. A cow about to calve should be kept in what would ordinarily be called good thrifty condition, but everything like *high* condition should be avoided until the flow of milk is well established. Then, with good feeding, she will without danger keep up a good flow throughout her milking period. But the change of conditions which take place when the secretion first begins to break loose, and when the milk-giving organs first come into action—this occurring at the time when the birth of the calf has already taxed the vital energies to a serious extent—is always attended with more or less feverishness. Under a judicious system of feeding, the milk secretion will be slowly developed, and after the cow has somewhat regained strength, and the natural flow has set in, it may be very soon carried to its full amount by stronger feeding. Some good, in the way of prevention, may be done by giving a medicine which tends to check the action of the heart—like aconite—but the sovereign preventive of milk-fever in a cow is to be sought in a judicious system of starvation. For at least a month before calving she should have only hay—and hay of ordinary quality at that; during the last two weeks the poorest hay and straw should be substituted, and after the calf is dropped, she should have for 24 hours little more than air itself, and then a warm bran mash. After this she may have a little hay, and after another 24 hours it is safe to begin gradually increasing the food until at the end of the first week she is up to her full rations again.

Mutton Sheep.

Mr. Willard, in *Rural New Yorker*, advises the keeping of mutton sheep in connection with dairying, but he would not have them run in the same pasture. He says:

There is need of a much larger number of mutton sheep in the country than at present obtains, and we have no doubt that small flocks of sheep could be kept on dairy farms with advantage. The meat is healthful and nutritious and can be grown more cheaply than beef, while it ought to be used more largely by farmers, who now rely upon pork as the standard meat for the table. Sheep require good fences to keep them within prescribed enclosures. Stone walls sufficient to turn cattle will not do for sheep, as they find a foothold on the stones to scale the walls, and on this account many farms are not in a condition to keep sheep.

Sheep husbandry is not so exhaustive to the soil as grain raising or dairy farming, and on lands much worn will be found one of the means of renovating such lands. There are many arguments that could be used in favor of having English sheep upon our dairy farms, but the most potent is that of profit, and this will be sufficient to arrest the attention of dairymen on the subject.

Which is the Best Breed of Hogs.

Discussing this topic, the *Rural South Carolinian* says:

A friend asks us to advise him what kind of hog to grow. He says he proposes to engage largely in cattle and hog raising, and would like to have our judgment upon the breed best suited to his locality. He has rich pasture lands, and abundant forest range, where the mast is usually very heavy.

Experience enables us to answer him concisely on the hog idea. The most symmetrical and majestic hog known is the pure Berkshire. He is thoroughly proportioned, small bone, plump hams, small shoulders, and long sides. He is nimble and active, but takes on flesh rapidly. Hence, for large ranges, he is the hog you want. But like every game animal, the Berkshire hog is naturally jealous, cautious, shy and almost timid, and hence if given a large pasturage, he will develop his disposition to roam, and become wild and useless, unless followed after very carefully and regularly. This is a serious objection to the Berkshire hog now-a-days.

On the other hand, the Essex hog is smaller, more gentle, less inclined to roam, but equally industrious, always fat, well knit together, heavier to his inches than the Berkshire, and, all things considered, the best hog for the southern farmer that can possibly be grown in our judgment.

A cross between these two makes an admirable plantation stock hog. And if we started with one of each pure, we would always prefer to have the boar pure Essex, and the sow pure Berkshire.

The Poland China are too lubberly and lazy. The Chester Whites are too white and tender for this climate. A black animal is generally preferable on climatic account, if for no other reason. And either the Essex or Berkshire will thrive on less, and give better and more meat for the same care than will your "piney woods rooters." Try the Essex.

Mules vs. Cows in the South.

The *Southern Cultivator* says:

Another point we would earnestly press upon the attention of our farmers, is the raising of horses and mules—particularly the latter. Nearly every one keeps too many *cows*—dispose of this surplus, and substitute mules in their place. A mule is almost as easily raised as a cow, and at maturity is worth at least five times as much. Why raise cotton, at heavy expense of manuring and cultivating, to buy mules and horses; when the land upon which it is grown, if made into a good pasture, would grow horses and mules at almost no expense. This diversion from cotton to stock-raising would be another means of diminishing cost of labor, by lessening the *demand* for it. Raising large cotton crops places the farmer completely at the mercy of the laborer. No other of our crops requires so much *hand* labor—none, perhaps, in the cultivation and harvesting of which *machinery* avails so little.

The Dairy.

New York Dairymen's Association.

This State society held its sixth annual session at Elmira on 13th December. The proceedings were extremely interesting, and we give in this number, mainly from the *Husbandman*, a brief abstract of the same, and will follow in subsequent numbers the paper on the Ayrshire cow with others upon the principal breeds suitable for the dairy. As this branch of farming is increasing in importance daily, we will, in the present volume, pay particular attention to every branch connected therewith.

"The Mayor of Elmira welcomed the members of the Association to that city, and in the course of his remarks said, that "perhaps no industry was at this time suffering so little from the great and continued financial depression that hinders all as the agricultural; and of those, engaged therein, none less than dairymen;" that "whilst our merchants have been distributing their goods for less than they could afford, and their aggregate business has been one of disaster for the past few years, bringing anxiety and distress to many homes; while manufactories of all kinds, as a rule, have been running at a loss, and many have been obliged to suspend operations entirely; and while men, idle but willing and anxious to labor, are numerous in every city throughout the country, skilled labor as well as unskilled, those that have been engaged in dairying are comparatively prosperous;" that "although prices have fallen off somewhat, yet there is no surplus; the demand is equal to the supply, and there is no diminution of employment for those engaged therein."

Mr. Willard, President of the Association, thanked the Mayor for his kind greeting and pleasant words of welcome to Elmira, and proceeded to address the body upon the subject of dairying generally. In the course of his remarks he presented some very interesting reminiscences from scripture and history of this ancient calling, and particularly of the rise and progress of the system of coöperation therein in this country.

Mr. Willard dates the first shipment of cheese to Great Britain at about 1830, and in 18 years thereafter (1848) our exports had increased to 13,000,000 pounds, and the whole production that year was not far from 100,000,000 pounds about 43,000,000 pounds of which was received at the tide-waters of the Hudson. In 1864-5, an old Herkheimer dairyman crossed over into Canada, and built the first factory in that dominion, and taught the art of manufacture to our Canadian neighbors. Previous to this, the Canadians bought largely from the States; now they produce from 30 to 40 millions of pounds annually, and are our sharpest competitors in the export trade. The trade in cheese fluctuated very much until about 1860, at which time two States only, New York and Ohio, furnished the amount exported. About that period the coöperative system commenced, and an improvement in the manufacture of cheese took place, and we were enabled to fairly compete with the English dairymen in cheese on their own ground; and beat them, until they sent to this country for instructions in the art. Landholders put up a purse of £20,000 to remunerate their tenants in case of loss by the adoption of the American system, and Mr. Schermerhorn, of New York, was employed to visit England and establish factories there, in Derbyshire we believe, and remained there two years, satisfactorily accomplishing his work, and the tenantry adopted the plan and were successful, taking the business into their own hands, without any loss to the landholders who had encouraged the undertaking.

At the Elmira meeting various practical dairy topics were discussed, some of which we may hereafter give to our readers. In the meantime, we present the paper by Dr. E. L. Sturtevant, editor of the *Scientific Farmer*, of Boston, Mass., on the

AYRSHIRE COW.

The Ayrshire cow is an animal which has been eminently fitted for man's uses through man's need. In her we find that economy of food and function so desirable in all cases; so necessary where competition is great, and the owner requires all the aids which intelligence can devise for even a moderate success. The wild cow is not a milk producer in the sense that we speak of the dairy cow as a milk producer; the wild cow is the product of nature, adapted to natural surroundings, her milk being for the calf alone, and neither designed nor furnished for any other purpose; the dairy cow is the production of the art of man, and is fitted for artificial surroundings and for an artificial purpose. She yields milk in quantity beyond the wants of her calf, because man has so willed, and this surplus product is as artificial as is the wine made from the grape, or as the cow herself, whom man has changed from the form and habits of the wild breed to a form and habit more in accordance with the interests of civilization. The Ayrshire cow is an expression of the will of the Scotch people, and her peculiar adaptation to the wants of the dairyman is the measure of the intensity of the desires which impelled the people of Ayrshire, in her production; and on the reverse, the necessities of the people, the necessities which were the outcome of high rents and keen competition, were the cause of the production of the Ayrshire cow. Let us see what the necessities or the fates compelled. To pay the rent, the cow that gave the largest product at the least expense, was required. Hence through the process of selection and breeding, this necessity was formulated in a cow which was of a size sufficient to yield a large flow of milk, and yet not too large for the pasture in which she fed. The Scotch farmer proved that the food required to support surplus flesh during many years was more costly than the flesh when obtained; hence his effort and success to reduce the surplus or unnecessary flesh in the make-up or proportion of his cow; we see his success in the light forequarters, heavy and deep rear-quarters, or in general words, in the wedge shape of the Ayrshire cow both viewed from the side and above. And so the process went on, in part intentional, in part unconsciously, until now we have in the

Ayrshire cow a marked example of the power of man over nature in an animal of the utmost value to the dairyman, and more especially to him who occupies regions of scant or uncertain pasturage, and unevenness of outline.

The Ayrshire cow is a good feeder—she eats much; but of what she eats, she requires but little for her own support and secretes the balance in milk. Her milk is of excellent quality, and while peculiarly fitted for the milk dealer and the cheese dairy, on account of its physical composition, is yet not deficient in the fats and is capable of manufacturing a large amount of sweet, high-flavored butter, during the year. Let a sample of Ayrshire milk be examined with attention, and you will find that while its cream rises more slowly than in the Jersey milk, and while it occupies less bulk, yet it is of a high butter-producing value. You will also notice the skim-milk, how it retains a white color, while the Jersey milk by its side shows blue. This is a most important difference, and is deserving of attention from the practical farmer and dairy manufacturer. Indeed, for the farmer, we should divide cows into two types, judging by their milk. The one type, the Ayrshire milk; the other type, the Jersey milk; and these types should never be mixed in the same herd, and still better if one type only were used for the supply of a cheese factory,—for each milk requires a special treatment, and is changed simultaneously by changes in the food.

I am expected, however, to magnify the Ayrshire breed in this free lance discussion, but this I cannot conscientiously do. The Ayrshire cow has, however, some advantages over the Jersey cow, and at present seems better fitted for the use of dairymen. My first claim is that the Aryshire cow is an older breed than the Jersey. Understand me, I know the Jersey is the older *race*, but the modern improved Ayrshire was such as she is now found, in all material particulars, in 1808. On the other hand, improvement of the Jersey cow to the modern type, hardly had a recognition before 1850. What is the consequence? The Ayrshire is the most of a breed, and the dairyman can depend on securing more uniform good milkers in breeding the Ayrshire, than if he is breeding the Jersey breed. Thus the chances are with an average herd of Ayrshire, the calves will come true to the improved breed, and will all be milkers. With an average herd of Jerseys of the same numbers, but a portion will be equal to the parents in the dairy quality. This is a strong recommendation: how strong can scarcely be told—for, granting the cows of equal money value for dairy quality, then the increase will be of unequal value, and with a large valuation in favor of the Ayrshires.

I suppose it will be expected of me to offer records of large yields of individual cows. This is manifestly a most unfair method, as large individual milkers can be selected from any breed, and the tally counts for nothing in establishing real merits. I however present a few records, in order to satisfy the unthinking. Thus, Ayrshire Lass is reported by Mr. Brodie as having calved April 1, and on June 10 yielded 74 lbs. of milk; commenced August with 66 lbs., and closed with 55 lbs. Total for the month 1,902 lbs. Red Rose calved May 20, and June 10 yielded 84 lbs. of milk commenced August with 74 lbs.. and closed with 63 lbs. Total for the month 2,168 lbs. The cow Swinly, imported by Capt. Randall, furnished in four days 102 lbs. of milk, which made 5 lbs. of butter. Mr. Prentice is said to have had a cow which gave 118 lbs. of milk in three days, from which 9 lbs. 5 oz. of butter were made. Mr. Appleton's cow Maud made 60 ounces of butter from 20 qts. of milk. The well-known Jean Armour furnished 6 lbs. 3 oz. of butter in three days in July. One of the cows imported by the Massachusetts Society for Promotion of Agriculture gave in a winter trial, 10 lbs. of butter a week. Mr. Miller, of Delaware county, N. Y., reports one cow yielding 14 lbs. 13 oz. of butter one week in June, another 14 lbs. 11 oz., and a third 13½ lbs. in one week in July, 1865; this same cow furnished 18½ lbs. of butter the same week in 1867.

The only true way for obtaining a true estimate of the value of a breed of cows for milk is to take the average for a herd, an average which shall include every cow in that herd for every day in the year. This course we shall pursue in some quotations, premising that the average weight of Ayrshire cows is from 900 to 950 lbs.

[The Dr. gave the report of the yields of a number of herds, which we cannot now spare room for.]

We might readily adduce other instances for the Ayrshire breed, but these seem sufficient. If we call each herd of a uniform size and average the result, we have for the average yield of first-class herds of Ayrshires for the year and succession of years placed at 5,674 lbs. or 2,639 qts. per cow.

What other breed can show statements like these? We think none other. Indeed we doubt whether our friends who advocate before you the merits of their favorite breeds will venture to deal with averages for breeds, but will content themselves with individual cows, which determine nothing. Indeed, even if we should meet them on this ground, the victory would be with the Ayrshires: for have we not Old Creamer, who yielded, June 11, 100½ lbs.; June 12, 100 lbs.; June 13, 102½ lbs.; and who gave 2,820 lbs. in the month of July?

Now, friends, I think I have offered and made out a case for the Ayrshires; but I would much rather have considered them on their merits as a useful breed for the dairyman, and not in competition for favor with other breeds. I value the Jersey for a dairy animal, but I think that the locality which requires the Ayrshire does not need the Jersey, and the locality which requires the Jersey does not need the Ayrshire. The Jersey, in its improved specimens, is a larger animal than the Ayrshire; gives less milk, gives a different quality of milk; and is especially suited for butter-making, etc. The Ayrshire is all this and more. Neither can overcome the other, for our country is large, our agricultural pursuits developed, and there is need for both breeds. It is only for the dairyman to determine which type of breed he can make the most profit from, and then grade up to this breed, or purchase or rear thoroughbreds.

Some exceptions were taken by Mr. Harris and others as to Old Creamer being placed as an Ayrshire. She was claimed as doubtful, and some

claimed her as part short-horn and part Jersey, or Holstein.

Mr. Stowell, a member, said he was interested in getting the most milk, and had experimented with Jerseys, short-horns, natives and Ayrshires, and as he did not care so much for quality as quantity, for the milk goes to a factory which receives from a thousand cows, and there is no inducement to get the richest milk since it must all go by one common standard of measurement. For the last four years he has had Ayrshires and found them good mothers, easy keepers, and the milk of good quality.

Remarking upon the character of the writer, Dr. S., an eminent breeder of Ayrshires, Dr. Craft, before the reading expressed the opinion that the paper could not be successfully attacked by breeders having other interests. At the close of the reading, Mr. Curtis called attention to the estimate placed upon it and moved a vote of thanks to Dr. Sturtevant, which prevailed.

In What Kind of Feed is it Most Profitable to Invest a Given Amount of Money for the Cows of a Butter Dairy?

The following is an extract from a paper read before the Montgomery Co., Md., Dairymen's Association, by Dr. Francis Thomas, and for an advance copy of which we are indebted to Wm. Brewer, Esq., editor of the *Rockville Advocate*. We regret that we cannot give the address entire:

The cow, in the eyes of a dairyman, is only a machine by which he converts feed into milk. And as she requires considerable quantities of food for the mere sustenance of the body, this portion of food, it would seem, should consist of those substances known to contain the elements of the animal tissues. On the other hand, the surplus food given with special reference to producing milk, should, of course, to carry out the theory, be principally composed of the constituents of milk. So simple is this in theory, that a novice might suppose it especially so in practice. But, as declared in the report of the American Dairymen's Association for 1870: "A thousand circumstances in the condition of the material fed, the manner of feeding, and the vital forces of the animals themselves, must modify in some degree every experiment made."

Therefore, while it is possible for the scientist to theorize intelligently in this matter, and point out the probable result of a given article of food, it must ever remain with the dairyman to ascertain for himself, by actual experiment, what is most profitable in his individual case. Some old-fashioned farmers scout at the idea of varying the feed to meet varying circumstances, believing that if you feed enough of any thing it will be sure to make milk. This cannot be so with corn meal, as I have seen cows that were gaining flesh and losing in milk upon corn meal, reverse the process immediately when changed to a strictly bran feed. That is, they gained in milk and lost in flesh. And to be more sure in the experiment, I have changed such cows back to corn meal, and have invariably found that their coats would slick up in a few days with a corresponding shrinkage in the milk pail.

Agricultural Calendar.

Work for the Month—January.

This is the season for reflection as well as for anticipation. It is a time to lay plans for the future, and to profit by the experiences of the past, fixing the causes of failure, and seizing the clues which lead to success. Now it is well to resolve to improve on old practices, and not only to resolve but to *do*. An examination into the reasons of miscarriages which the farmer has encountered is only the part of wisdom, and to evade it is to display want of courage. He can only hope to avoid similar errors in the future by understanding their character. This involves the determination of a settled system for the year; and once adopted, after a fair adjustment of means and resources to the end and objects sought, ought to be kept steadily in view, and adhered to as closely as possible, with only such deviations as necessity demands. Do not attempt too much. Avoid the temptation to over-cropping. Among the things which are peculiarly appropriate to do at the opening of a new year, there is not one, in our judgment, of more importance than to

Open an Account Book.—Here, at least, lacking any definite plan of keeping farm accounts, can be noted down every item of expenditure on and receipts from the farm. At the beginning of the year, and again at its close, an inventory should be taken of crops on hand and unsold, machinery, implements, stock, and all other assets. A comparison of the footings with the liabilities, if any, shows the farmer just where he stands; and there is nothing like looking the facts right square in the face. Once adopted, and the custom persevered in of making an entry of every item received and expended, the result ensuing will be found wonderfully satisfactory. This keeping of accounts, however simple in their form, is really as useful to the farmer as to the merchant, and the time it takes cannot be better spent. We believe nothing can be found to conduce more to the satisfaction of carrying on the work of a farm, if accounts are kept, not only with the farm itself, but with every crop raised on it.

Making Manure.—This work can be pursued during many opportunities which arise often through the winter. Substances to be found on every farm, not only wasting but often absolutely detrimental to health, can be gathered up and worked together in the barn-yard and compost-heap, so as to largely increase the available supplies of fertilizing material. Commingle as far as practicable the various kinds of manures together—from the horse and cow stables, the hog pens, &c.—adding such absorbents as muck, leaves, road-scrapings, &c., as may be available, adding from time to time a dusting of plaster, and when practicable turning the whole over.

Hen Manure is the most valuable made on the farm, and is worth the most careful protection. Keep it in boxes or barrels under cover, either by itself or mixed with coal ashes or dry earth. No fertilizer is more effective in the garden.

Grain Fields.—Look out that on these surface drains do not become filled up, and thus permit the accumulation of water about the roots of the plants.

Tobacco Beds.—Materials for burning beds should be gotten together as early as possible, and the work itself done as soon as the weather permits. Early seeding is generally most successful, and one good chance neglected may result in delay, which will be not only vexatious but damaging. If practicable, select for the beds a site protected from the north; have abundance of brush and wood, and after it is burned have the bed dug deeply and thoroughly fined. Spread your guano evenly and rake in, and then sow the seed half in one direction and the rest across, and roll or tread it in firmly. A tablespoonful of seed to 100 square yards is sufficient, and to ensure regularity in sowing mix it with fine ashes. See to it that the beds are well drained, and a trench should be cut around them to prevent inflow of water from the outside.

Continue stripping tobacco, when the weather is favorable, being watchful to assort various grades, and to handle carefully.

Live Stock—The more than usually severe weather this season has shown ought to secure more than ordinary attention to all kinds of farm animals. Regularity in feeding is one important matter not to be overlooked. *Milk Cows* should have begun the winter in good order, since it is much more practicable to keep them in good condition than to restore them to it after they have once run down. Light, warm, but well-ventilated stables, are as essential to their health and well-doing as is palatable and nutritious food. Now, if you have followed the recommendations of the *American Farmer* in providing a supply of ruta-bagas, mangels, carrots or parsnips, you will gain advantage in it in the succulence they will give the usual dry winter food of your stock. Not only their nutritive properties, but their alterative effects, contribute to make them of the greatest value to every farmer. *Working Animals* ought not to be exposed more than can be avoided in bad weather. Exercise is desirable, and over-feeding should be avoided when they are idle. Bed them well, and see to it that they are rubbed down at least once daily. An occasional mess of carrots is excellent. Cows and heifers in calf and brood mares need liberal rations of nourishing food. Keep young *cattle and colts* growing and thriving, and give every kind of stock some protection against cold rains and winds. *Sheep and Hogs.*—Put the former out in the fields in dry weather,—they are better there than housed. Do not neglect to salt them regularly. Have dry, warm pens for hogs, with ample rough material for bedding. See they have clean water to drink, and a supply of ashes, charcoal and rotten wood. *Poultry* need dry, warm quarters, and some variation in their food,—giving a due proportion of meat and scrap, with grain and vegetables.

And now, at the beginning of a new year, do not neglect to look after the little things that need doing—the slight repairs wanted—remembering that "a stitch in time saves nine." There a shingle loose, here a fence-rail down, a bolt out in this place, a nail wanted in that; attend to all these trifles as you find them. It will be easier, consume less time, be more economical and likely to avoid unpleasant results, than to wait for the job to become a big one. It is, indeed, saving the pennies.

Horticulture.

Horticultural Societies.

Their Acts, Objects and Uses.—No. 2.

Editors American Farmer:

Every valuable production of our fields, orchards and gardens is the result of progress and improvement. We have scarcely a fruit, plant or flowering shrub in its orignal condition. All are improved by climate, soil and proper culture, until we can hardly realize that their present high condition has been derived from an arid and worthless natural state.

In order that we should continue to sustain and improve the qualities and condition of the vegetable productions that luxuriate in our soils, and modify and tame the wild natures and beauties of those whose merits are yet untried and unsuspected, we should, with the aid of science and art, continue our improvements and investigations until we reach a limit of perfection as yet unattempted, and, perhaps, unimagined.

By progressive art and culture the rose may be still farther improved, and caused to exhibit and possess tints and perfumes bordering on enchantment; and wild and undeveloped flowers expand into elegance, beauty and fragrance, almost rivaling the heavenly amaranth. The same may he said of other productions. "Fruits as delicious as the peach, and vegetables as delicate as celery, have been produced from acrid and poisonous originals. Before man interposed, the olive was dry and offensive, the peach bitter, the pear had but a hard and woody flesh, and the apple tree was full of thorns. Man labored and the thorns fell; the rose doubled and trebled its flowers; the peach and pear filled with perfumed juice; the olive lost its bitterness, and the wild grasses were converted into waving fields of grain."

All this is, or may be, the legitimate result of agricultural and horticultural science and skill. Knowledge is power; and, it is *acquired knowledge*, in conjunction with that resulting from combination and association, that leads to progress and development.

In no way can our powers and abilities be exercised to greater advantage than by means of associations such as your State Horticultural Society. The acts, objects and intentions that should govern this and kindred societies are intended to diffuse knowledge and suggest means of improvement over the whole country,

and especially to enlighten farming and fruit-growing communities in the arts of successful culture. Although, perhaps, the details and *minutiæ* of horticultural operations belong more particularly to the practical tillers of the soil, yet instructions that should govern them mainly, and in their general operations, should be a part of the business assumed to be carried out by these societies.

By means of these associations, and the knowledge disseminated through our agricultural and horticultural journals, and the schools in which the arts appertaining to agriculture and its branches are taught, we shall be able to understand the fundamental laws and conditions that govern the growth of plants, so as to render the making and maturity of a good crop almost a matter of absolute certainty. Through ignorance and misapplication of means, farming of any kind, with many cultivators, *is a mere matter of blind chance*, and their productions are often the least when from their extra management the largest returns were anticipated; and, on the other hand, those proved to be the greatest of which little was expected.

We feel it almost a work of supererogation to remind fruit-growers and florists of the benefits derived from horticultural associations; and that they have felt the need, and, perhaps, experienced the value of associated interests and concentrated effort in behalf of their special callings. No doubt the same interests and influences that brought about your valuable organization operate to a considerable extent throughout the country; but, we are sorry to say, so far have not influenced the farmers of our fine fruit-growing section, so as to induce them to organize an association of this kind. We have moved in this matter through our local papers, and with editorial aid; but so far without success. We expect to resume and press this important subject, still hoping that some of our young and active farmers will take hold. The thing only wants a beginning—a start—and success cannot be doubted. We believe an intelligent outlook and view of this important subject will, at an early day, induce other sections, now in ignorance of their true interests, to institute organizations for their own special benefit, as well as to diffuse horticultural knowledge.

As it regards fruit-growers in many sections of the country, this apathy and absence of combined effort is a very serious disadvantage—an obstacle that should no longer stand in the way of our progress. As a class, horticulturists, especially fruit-growers, seem to be wanting in the spirit that begets co-operation and effort; but, perhaps, it should be remembered that their general circumstances are not so favorable to close combination. In sparse communities the farmer or fruit-grower cannot readily get information of his fellow-laborers as other classes, such as mechanics and artisans in cities. His means of intercourse are less. He probably takes no agricultural journal; owns no fruit books, and his circle of acquaintances is much more limited. These circumstances, however, may explain, but do not justify, the lack of class spirit and improvement that should belong to his calling. But, independent of all these drawbacks, it cannot be denied that, with us, considerable progress has been made in horticulture; even in sections where no combination ever existed.

It may be proper to remark here that the means of information offered through the medium of public discussions, such as are generally practiced in these assemblies, are also of great importance; not only in regard to the information thus elicited, but, in the way of practice and training of young farmers in debate, in conversational powers, and confidence in expressing their views and opinions in public.

As a general thing much progress and improvement cannot be expected in any pursuit by divided and individual effort. It is very rare that anything great or valuable can be secured in agriculture and its branches without combined operation and forces. Numbers, aid, art and energy will push things ahead, create a spirit of emulation, and lead to high attainments; and, at the same time, aid in the development of national wealth and progress.

Keswick Depot, Albemarle Co., Va. J. FITZ.

The State Horticultural Society.

Messrs. Editors American Farmer:

In the November number of your very valuable journal, I had the pleasure of reading an article from our friend J. W. Kerr, who, misunderstanding the facts, did great injustice to our Horticultural Society. He says: "At least I take exceptions to the course to which the Society seems inclined, viz: that of ignoring in its exhibitions, to a large extent, every other interest except floral or plant, and it thus far has been a failure, almost, except as a plant show," &c.

Now, it is hardly fair to condemn a Society that has done everything in its power to induce the fruit-growers of our State to exhibit their productions at our shows, by offering fair premiums for competition, ample room, and facilities for display; our secretary sending letters of solicitation to the fruit-growers generally, to induce them to send their vegetables and fruits, and encourage the Society by their presence. The result was that two large rooms in the Academy of Music, given up entirely for their display, were not one-third full; and in order to get even a respectable display of fruit, several officers of the Society were industriously visiting our suburban growers, begging them to exhibit their fruits and vegetables, and it was only after this very unusual effort that the Society succeeded in collecting the meagre quantity shown, whilst the fruit-growers generally, like our friend Kerr, encouraged us by sending nothing and staying away from the exhibition altogether; and the total market value of all the fruits and vegetables exhibited, it is probable, was not equal to one-half the prize money awarded.

Some time since, at the suggestion of Col. Edward Wilkins, of Kent county, (who, by the by, was an exception to the general rule of fruit-growers, being present at the last exhibition daily) the Society endeavored to have a peach show; but after several months, although the *Farmer* gave publicity to the subject and published the communication of the Colonel, the

committee, for want of encouragement, was compelled to report the exhibition impracticable; and this took place in Maryland, the greatest peach-growing State in the Union.

Mr. Kerr asks: "Can the Society take no action that will bring more exhibitors of fruit to its shows?" In reply, allow me to state that the Society, some fifteen months since, almost despairing of enkindling the necessary enthusiasm in our Maryland fruit-growers, despatched a committee to Chicago to invite the American Pomological Society to make their exhibition in 1877 jointly with them, and notwithstanding the great efforts of our horticultural friends of other places, who desired this great meeting to take place in their respective cities, succeeded, and we can state to friend Kerr that the Society has done something, and we hope if nothing else will arouse the fruit-growers of our State to the necessity of encouraging our Society, their pride as Marylanders will induce them to do so at our September exhibition, that the most noted pomologists then present may at least see such a display from our State as it has never been the good fortune for our Society to see, and that Mr. Kerr will use his pen in future to enable us to attain this end, and let us have the pleasure of his presence in September next, when he can judge correctly of the efforts of the Maryland Horticultural Society to fill its mission "in deed."

OLD FIELD.

Tree-Washing in Winter.

The *Germantown Telegraph* reminds its readers that the winter season is the time for tree-washes, and that very much good results from their use. There is much discussion, and especially just now, about scraping off the bark of trees,—some favoring and some opposing, and some losing temper on either side about it; but the whole question is settled by using tree-washes, for where it is practiced there is never any rough bark to scrape. A tree annually washed has always a clean, smooth bark, and is generally in the healthiest possible condition.

We see it stated in some quarters that trees washed never have the blight; but this does not prove that it prevents blight, because there are many trees which are never washed that have not blighted. If washing were more general it would be an argument. Still it is quite likely that washing will keep down blight, especially if, as some botanists tell us, the blight comes from a sort of fungus seed which sprouts and grows from the outside of the bark.

Our country farmers use simple whitewash, and their trees are very healthy. It does not look nice to tasty eyes, but this can be remedied by coloring. Some put sulphur in the whitewash and fancy it helps to keep down red spider,—a small, almost invisible insect, which often injures very much the leaves of fruit-trees.

Trees regularly washed are seldom infested by scale; but where they are, it seems now well-established that linseed oil makes a certain and cheap remedy. It is painted over the stems.

Of course there is much good to fruit-trees in pruning, manuring, and the many other processes of good culture; but of all the good things we doubt whether there is many more valuable than good winter washing of the trunks and stems. This wash can be made of whale-oil soap, a pound to a bucket of water, and many other things having the same active qualities.

Pear Blight.

The views taken on this subject by Prof. Brainard, of Washington, in his address before the Potomac Fruit-Growers' Association, a summary of which was given in the *American Farmer* for November, do not seem to have general approval. The venerable Dr. Kirtland has written a letter to Prof. Brainard, endorsing his position; but the weight of authority, so far as we have noticed, seems decidedly against him.

Mr. Thos. Meehan, one of our most eminent vegetable physiologists, and whose verdict is entitled to great weight, does not hesitate to say:

. The effort of Prof. Brainard to ascertain the cause of pear blight by experiment, will attract attention at once, as the majority of those who profess to understand the disease will write for a year in preference to *observing* for an hour. In regard to the experiment itself, the fire-blight does not commence in the "leaves and, soft wood," so that the analogy goes for nothing. Fire-blight commences in spots on the bark, often extending round the whole stem and girdling it—and not unless it does extend round and girdle the branch is there any injurious effect on "leaves and soft wood." The line between the healthy and unhealthy part is often so distinct as to be drawn by a hair line, and it is inconceivable that say one inch of bark should be injured by 108°, and an inch adjoining, separated but by a line, should be under the same temperature, and yet absolutely uninjured. The whole course of the Professor's argument, as well as of many other recent writers on fire-blight on the apple and pear, shows that he is thinking of some other disease than fire-blight, or else has given the appearances in the real disease but a very cursory examination.

And Mr. B. F. Johnson, the exceedingly well-informed and logical Illinois correspondent of the *Country Gentleman*, writes:

I would like to have it explained by Prof. Brainard or Dr. Kirtland, that if solar heat is the sole cause of the mischief, and not a deficiency in the soil, how it is these relics of modern antiquity, the pear trees of Vincennes, Hardin county, and the Kaskaskia bottoms, have resisted the intense heats of the many summers which have passed over since one hundred and fifty years; and how, if solar heat does its business so effectually on the pear in America, it does not accomplish something on the burning plains of Italy, where the *Bonchretien d'Ete*, "wholly occupying large orchards, grows with incredible vigor, and becomes as strong and large as oaks."

Prof. Brainard lays great stress on the fact that blight is pretty sure to make its appearance on the sunny side, and finds in that circumstance the cause and secret of the disease. But it seems to me it can be readily shown that it is not the

heat of the sun that works the mischief; it only hastens its development. Trees transplanted from the timber, with insufficient roots, die first on the sunny side, for the reason that evaporation goes on faster there, and it is not unfrequently the case that a tree so smitten finally recovers, but loses all the bark off the south side. If two persons under the same circumstances were infected with the germs of cholera, yellow fever, or any of the dread epidemics, the one exposed to excessive solar heat would be likely to be the first attacked, and with greater violence than the other not so exposed. And while the one would be pretty sure to die of the attack, the other, who kept cool in the shade, would not only have the disease with less violence, but might recover in the end. And so of dead and decaying bodies; those exposed to intense solar heat are the soonest to putrefy and decay. So a pear limb attacked with blight would show the disease less pronouncedly if it were in the shade, and if kept there it might finally recover.

With all due respect for Mr. Brainard's scientific acquirements, and the weighty endorsement of the respectable and venerable Dr. Kirtland, I dare venture the opinion that they are considering that to be a cause of the disease which is only one of its effects.

The Vineyard.

Culture of the Grape.

Messrs. Editors American Farmer:

To comply with your request I will give from time to time in your pages some of my experience in grape-growing. The grape vine (the plant itself) will almost grow in any soil or situation, as we can see all around us, with different success. The best and safest situation, however, is a dry hill-side; this holds good in this country as in Europe. Such a soil as Mr. Giddings describes in the last number of the *Farmer* is certainly a very good one, as it shows plenty of natural drainage: the very thing we generally find and seek for on a hill-side. In my experience it is the most important point to successful grape-growing. The dryer the situation the healthier the fruit will come out; if a wet season, on level ground, which is generally richer, the vine makes a strong, unnecessary growth, and a wet season always tells badly on the fruit; first by mildew, rot, and at last, but not least, in the flavor of the fruit. Any manure that will help to retain its moisture, ought to be avoided. The best manure to keep the fruit in a healthy state I found to be bone dust, ashes, leaf mould, potash, and old lime rubbish. Mr. Ch. Schmidt, who owns a large vineyard on the Patapsco, while on a visit to me last summer, complained of rot on the south side of his hill. I asked him if he manured that side. He replied yes, and with the heaviest kind of manure (Butcher's manure,) while the other sides, which he manured with bone dust, remained in a healthy condition. There are plenty of hill-sides around us here and in Howard county, and I suppose all over the State, which are too poor for any other crop, which would make splendid vineyards. I am satisfied, from a conversation I had with Mr. Hussman, that we have had healthier grapes the last few years than they had out west. Farmers who have no experience in grape culture ought to begin in a small way only, and increase their plantation as they increase in knowledge, both in the cultivation and the making of wine. If the Elvira makes a wine, which as Mr. Hussman has told me, one of the best judges, not knowing of what grape it was made, after tasting it, pronounced to be the celebrated Margraefler of my native State, Baden, then grape-growing will revive. Of course all new varieties ought to be tried first sparingly before we plunge into it headlong, as many have done, which has done more harm to it than anything else. In your next number I will give my experience as to varieties.

JNO. COOK.

Breisgau Fruit Farm, near Carrollton, Baltimore Co., Md.

The Wine Question.

Messrs. Editors American Farmer:

With much interest I have read the article of Mr. Giddings about his wines, and though I fully agree with him on many points, I am rather surprised to find a grape-grower of his years of experience so strongly opposed to a rational improvement of must. For the old countries the practice of which is scientifically and practically a settled fact of great importance, and I do not propose to open discussion on it, except in so far as it relates to our native varieties of grapes.

It is a mistaken idea that Dr. Gall invented his process of making wines simply to increase the quantity of such; this was secondary. His main object was to enable the poor vintners of the Moselle and Rhine to make a drinkable and salable wine in those unfavorable seasons which so often occur in those regions. That his success has been a thorough one, is proved by there not being found, in the markets of to-day, any of the sour and unhealthy wines of former years. The average product of those countries is at present far superior to that of olden times.

Adding sugar and water to good must of choice wine-grapes, to increase the quantity, is such utter folly that no experienced vintner will think of doing so. Some of our American grapes will furnish such must, but unfortunately they are the varieties that do not succeed well in most localities. With anxiety we are therefore watching the new grapes, hoping, one of these days, to find a variety that will prove reliable and furnish a must that needs no gallizing.

Of the different methods of improving must, Dr. Gall's is the most valuable for us here, as with most of our grapes we have to overcome an excess of flavor. Most of the varieties cultivated in our vineyards have been taken out of the woods or been improved for only a few generations, and so plainly show their wild character and flavor, that even if their must is rich enough, they will make so fruity a wine that those persons used to good European wines will not drink them if they can help it.

The general objection to our native wines is that they are too fruity, and taste of the grape. This is often confounded with the so-called earthy taste.

I, too, have made good wine of pure grape juice: for instance from choice Delawares and Nortons; of the latter by a process to overcome its strong, objectionable aroma, but shall not attempt to do so with varieties like Concord, Ives and Clinton, as they, under any mode of fermentation, even if they contain sufficient sugar, will turn out a wine with so strong a taste of their respective grapes, that I at least have found them unsalable in open market, competing with foreign wines nearly all gallized or petiotized.

Long years of storing will eventually overcome the strong flavor, but we cannot wait such a time for the prices received, and why should we, if the harmless addition of pure water and pure sugar will reduce the strong and objectionable flavor, and change it so as to become pleasant and palatable to judges of good wines.

Choice wines can certainly only be made of choice grapes without any addition to the must; but I claim that with the varieties mostly cultivated in our vineyards, we cannot produce such an article, though, by judicious gallizing we can furnish cheap, healthy wines that are far better than the doctored and artificial wines so extensively sold all over the country. As long as we add nothing else than sugar and water, I think we can truthfully call such wine pure and genuine. A few yet claim that any addition adulterates the natural wine. What does the word natural wine mean? Nothing else than product of nature, and this already says enough. There is no such thing as natural wine. It is not more a product of nature than bread.

Looking at the process the grape has to undergo to become wine,—the pressing, racking, sulphuring, fining, etc., etc.,—we must say wine is altogether an artificial production, and the more skill, attention and nursing is given to it, the better will be the result. Adding to poor or overflavored must only such articles as are otherwise used in our daily food can certainly not be found objectionable as long as the vintner openly acknowledges his practice, though most customers never question if the wines are pure juice or not. They buy them according to the quality, and, as far as my experience goes, want a wine without the characteristic native flavor or taste of the grape. Yours truly, C. A. HEINEKEN.

Prince William Co., Va., Dec. 15, 1876.

The Foreign Grape.

The following from the *Germantown Telegraph* will be read with interest by all fond of this delicious fruit, and who would like to know of a simple and inexpensive way of producing it:

We do not hear the recommendations we did years ago, for every one to plant foreign grapes. In every direction there were details for building cheap vineries; and the way to do it, and the profits resulting, were staple topics at every agricultural club.

It is probable that with the improvement of the native grape has come less desire for the foreign article, for we have now some native grapes of an excellence far above what would have been thought possible a few years ago. Still, in our opinion, none of the improvements are equal to regular graperies for foreign varieties; and though it may have some influence in keeping down the desire for grape-houses, could scarcely have been the whole reason. Most likely it has been the introduction of these grapes from California. The foreign grape thrives very well in that country; and there have been some fair attempts to bring them across the continent and put them on our markets, but with no very great success. Still, the attempt must have had its influence on keeping back grape-houses, even if for no other reason than the cheapening of the product. At the time we speak of, first-class foreign grapes raised in our houses would bring about $1.50 per pound, and there was some profit in it; but when California sends Muscats and Marocs and Tokays to our markets, and they sell on our streets at fifteen cents per pound, (or fifty cents on the centennial grounds,) there is no chance for the home-made article at $1.50 per pound.

As a matter of profitable speculation, therefore, there is little use in graperies of glass; and as some consideration of profit and loss necessarily enters into everything we do, there is no doubt all these have had to do with the neglect of grape-houses. And yet we are sorry that it is so, for in spite of California and the improvement of the native grape, there is nothing grown or in our markets that can compare with a well-ripened hot-house grape; the material we find on our dinner-tables, bought from the stores, are hardly worth eating by those who have been accustomed to artificial products. We do not think there is any "pay" in hot-house grape-growing in the commercial sense of the word; but in actual pleasure and gratification there are probably few things in gardening that will give more.

We use the term hot-house as gardeners use it, to signify an artificial covering to grow the foreign grape in; but it does not need heat to grow them. The foreign grape mildews when grown in the open air; but with any sort of covering that will keep a moist air about the plant it thrives well, and it is about all it needs. Of course, when one wants grapes very early it is then desirable to have furnaces, pipes, and a real hot-house; but that is a condition which calls for a skillful gardener, and is not the kind of idea we want to work out now. All we want is a glass covering under which to grow the vines.

We think many well-to-do farmers, with a little time and a fondness for those good things of this life that cost but little to procure, might have a few foreign vines under glass—a sort of cheap cold grapery. There need be no expensive grape-border, such as the garden books call for, but any good garden soil that will grow cabbages is good enough to plant the grape in. Any sort of cover built over the vine, so that it has a glass roof and plenty of light, is about all that is needed as the foundation of good foreign grapes. Of course one who does not know a rose from a gooseberry bush could not up and grow these grapes; but any one who is accustomed to grow vegetables and knows the wants of growing crops, can make out tolerably well in grape-growing.

The Secretary Grape.

This is thought to be one of the most valuable of Mr. Ricketts' seedlings, and some specimen bunches shown at the Massachusetts Horticultural Exhibition this year were twelve inches long.

Floriculture, &c.—January, 1877.

By W. D. Brackenridge, Florist and Nurseryman, Govanstown, Baltimore county, Md.

During the still, cold days of winter, as horticulturists, we have a little more time for reflecting on what is past, as well as to turn our minds in the way of designing for the future. And in this direction we still entertain—as we long have done—the idea that much pleasure would be imparted and a good deal of labor saved by the votaries of Flora, could they be induced to turn their attention more to the cultivation of hardy herbaceous plants. And really, to secure such, we do not need to go far—for in our meadows, prairies and woods are to be found as lovely gems as ever adorned any of Flora's most gaudy parterres. And, furthermore, the desirable of such kinds as are of foreign origin may be had of almost any of our respectable nurserymen, at very moderate prices. On previous occasions we have given short lists of what we deemed desirable in this line, and, in order to keep the public mind awake to what we think is of interest, we enumerate here a selection of such as are desirable, either for the beauty of their flowers or foliage, while at the same time the tenderest of them will stand out during our most severe winters with only a partial protection, viz:

Acanthus spinosa; Achillea ptarmica, fl: pleno alba—good for bridal boquets in summer; A. millefolia, fl: rosea; Aconitum Napellus; Agrostemma coronaria, fl: pleno alba—a constant bloomer; Althea rosea, the Hollyhock—the double varieties of which are very ornamental; Alyssum argenteum; Anemone japonica; Aquilegea—both double and single sorts are very desirable, particularly the Rocky Mountain kinds; Atragena Americana; Asclepias tuberosa—no herbaceous plant can surpass this when grown in masses; A. incarnata; Asphodelus fistulosus; A. albus; Bellis perennis—double daisy, in great variety; Bromus brizæformis—a grass; Bocconia japonica; B. cordata—both species are strong, erect growers, with leaves that are very ornamental; Convallaria majalis—the modest and fragrant Lily of the Valley; Campanula persicifolia, fl: pleno alba; C. eximea, C. rhomboidea, fl: pleno, Chelone glabra, C. barbata—all of the species are worthy of a place; Cypripedium pubescens, C. spectabilis—will succeed well in a shady, moist locality; Chrysanthemum indicum—numerous in fine double varieties; Crocus—of various shades of colors; Delphinium chinense, D. tricorne—double and single, excellent for boquet-makers; D. formosum; D. nudicaule—flowers scarlet; Dianthus plumarius—dwarf pink; Dicentra cucullaria—Dutchman's Breeches; D. spectabilis—Bleeding Heart, very popular; Digitalis ferruginea, D. purpurea—Fox Gloves; Dracocephalum peregrinum; D. Virginianum; Dodecatheon meadia—American Cowslip; Epilobium abyssinicum; Erianthus Ravennæ—a strong growing, ornamental grass; Funkia alba—to be grown in rich land, in a shady situation; F. cœrulea; Galanthus nivalis—Snowdrop; Gentiana puberula; G. saponaria; Gunnera scabra—highly ornamental when massed on a lawn; Gynerium argenteum—Pampas grass, of great beauty; Hibiscus moscheutos—Marsh Mallow, pink and white; Helleborus niger—Christmas rose; Inula Helenium; Iris Siberica; I. japonica—single and double, in many colors; I. hæmatophylla; Lathyrus latifolia—purple and white flowered pea, very desirable; Liatris pycnostachya—very handsome; Lobelia cardinalis; L. syphalitica; Lythrum speciosum; L. roseum superbum; Lunaria biennis—honesty, when dried the capsules are pretty; Lychnis chalcedonica, fl: pleno—old, and much admired; Monarda didyma; Morina longifolia; Narcissus—of the hardy Daffodil kinds; Œnothera grandiflora; Œ. macrantha; Pœonia chinensis, fl: pleno—in great variety, and demanding more attention than they have received; Papaver orientale; P. caucas cum; Pentstemon centranthifolius, P. Murreyanus, P. speciosus, P. Lobbi—all well adapted for the decoration of the table; Phlox—in great variety, and can be made to bloom the greater portion of the summer; Polemonium cœruleum—Jacob's Ladder; Primula veris—from this comes the Polyanthus and Primrose of the English gardens, called also Cowslip; Rheum Emodi—the large, broad, spreading leaves of this stamp it as the king of foliage plants for the lawn; Rudbeckia laciniata; Ranunculus aconitifolius, fl: pleno; R. acris, fl: pleno; Spigelia Marylandica—known as Pink Root; Saxifraga umbrosa—London pride; S. ciliaris; Scutellaria macrantha; Stipa pennata—Feather grass; Scabiosa alpina; Sedum Sieboldii; Spiræa ulmaria; S. filipendula, fl: pleno; S. aruncus; S. lobata—all these Queens of the Meadow are good; Teucrum chamaedrys; Tradiscantia virginica; T. rosea; Trycirtis hirta; Trollius altaicus; Valeriana, rubra and alba; Veratrum nigrum; Veronica gentianoides, V. insignis, V. japonica—a genus numerous in species; the flowers of mostly all of them are of a bluish color; Wahlenbergia grandiflora, and its varieties, are very desirable; Zauschneria Californica—a showy plant, but rather tender.

It is not assumed that the adoption of any or all of the above articles enumerated would supply the place of such bedding-out plants as now form those elegant masses of flowers and foliage of the present day, which so much delight the eye and administer to the other senses; but rather that those with moderate means could have, with little care in the garden borders, plants that would afford them flowers during almost every month in the year, without the aid of a greenhouse! Think of that, readers.

In mild weather, a very necessary work can be performed in the pruning out all dead and cross wood from trees and shrubs, cutting well back such as bloom on the wood of the same year's growth—as Altheas, &c.; while Spiræas and Weigelias should only be cut, so soon as the flowers have faded. The wounds made where large branches have been taken off, should be painted over with a solution of gum shellac, common paint or tar; the first is the best.

Greenhouse.

The recent severe cold weather must have fully tested the capacity of all heating apparatus. By far the greatest amount of damage done inside by frosts has had its origin in neglecting to have the temperature well up early in the afternoon, it requiring nearly a double quantity of fuel to expel than it does to repel frosts; and should it gain admittance, then thaw off such plants as

have got touched very gradually in the shade; and to facilitate this a little water may be applied to them overhead with the syringe; but in doing this the temperature of the house must be high enough, so as to prevent the water from freezing.

Geraniums and Pelargoniums will now require a thorough overhauling, particularly the former, by having the smaller ones shifted into larger pots and the larger ones pinched back, so as to form bushy plants; all of the tribe prefer to be placed near the glass, where they can have an abundance of light and in fine weather plenty of air; a compost of turfy loam, well rotted cow manure and sand suits them best.

A good place in which to grow Cinerarias and Calceolarias is a cool house where frosts can be kept out, and as the plants advance in size they should be placed in larger pots before the roots become matted round the edges; 6 to 8 inch pots are large enough to bloom them in. Be careful in handling, so that the large leaves at base do not get injured, as much of the beauty of a plant depends on its perfect foliage. Both are subject to the attacks of green fly; these can be got rid of by frequent but moderate fumigations of tobacco; heavy fumigations will injure the young leaves. Red spider is readily kept under by frequent applications of water through the syringe.

Cuttings of soft-wooded plants root freely during this and next month, and now is a good time to sow seeds of greenhouse plants.

Chestnut Hill Views—No. 3.

How to arrange a Private Greenhouse.

I am often surprised when visiting private places where plants are cultivated under glass for the pleasure of the family, to see so little conservatory bedding. Most of our private greenhouses seem to be patterned after those of commercial florists, are fitted up with staging and crowded with plants in small pots. Now it strikes me that more pleasure could be obtained from these houses by bedding most of the plants out, and certainly more growth and bloom obtained from a fewer number of plants. It is well known that we cannot bed out here with any success in summer the gorgeous tri-colored geraniums which succeed so well in England.—But these plants are grand when bedded under glass in winter.

Suppose a person having a greenhouse—a lean-to—sixteen feet wide. Let there be a bed four feet wide along the back wall; stretch wires along this wall, to which train heliotrope and roses. Along the centre of this bed set plants of Camellias and Azaleas, and cover the ground beneath them with dwarf Ferns, Selaginellas and other shade-loving plants. In front of this bed let there be a walk two and a half feet wide; then another bed four feet wide through the centre of the house. Along the back of this bed set a row of Abutilons to be kept low and renewed with younger plants as they grow too large, or alternate them with Daphne Odora and Lauristinus. In front of them fill the bed with tricolor, silver and bronze geraniums, and finish off with a front edging of Sweet Alyssum, Mignonette and Lobelia. Then another walk, and, if the building is heated by a flue, a table three feet wide along the front over the flue for plants in pots. If hot water is used, the pipes can be taken along this walk and covered with gratings and another bed made in front and filled with Carnations and other low-growing winter-blooming plants. To my mind a house arranged in this way, and not over-crowded with plants, would yield the owner a great deal more pleasure, with much less trouble, than the structures we see with the inconvenient and troublesome high stages.

Of course under this arrangement there would have to be a separate structure for growing young plants, and for specimen stove plants in pots if they are wanted. None of these plants I have named require a very high degree of heat, and would do well when a night temperature of 45° to 50° is maintained. By all means let us have more winter gardens under glass.

Verbena Culture.

My last article on verbena culture has elicited some contemptuous criticism from some who learned the gardener's art over the water, and have learned nothing since. I would simply remark, that I would not undertake to instruct these gentlemen in their business, as they have advanced as far as their capacity goes; but I believe there are numbers like myself who are ever ready to get a new idea or method from even the most humble source. The truth of any theory of plant culture can be best ascertained by its operation in practice, and I am able at this writing to show some thousands of verbenas without a sign of rust on a single plant. If any other establishment around Baltimore can do likewise, it is a place I have not yet seen. Please excuse a little boasting, but when one's methods are laughed at he feels like challenging comparison with the products of those who ridicule. So long as my method of culture gives me healthy plants, I am perfectly willing for the old fogies to have their laugh, and go on growing their diseased plants in the good old way. My object in writing these articles is not only to contribute my mite in the way of hints and details from my own experience, but to provoke others to do likewise, that thereby I may gain some new ideas in the art, to the study of which I have devoted my life. My space is exhausted and I am getting egotistic, for which I beg your readers' pardon. W. F. Massey.

Chestnut Hill, near Waverly, Md., Dec. 23, 1876.

Fine Stock.

Mr. T. J. Lea, who advertised Berkshires in our last No., writes us: I have made some very fine and expensive additions to my stock, and have nothing but first-class animals on the farm. I have ten fine Berkshire sows and four breeding boars, and feel no hesitation in saying that I can furnish stock that will compare favorably with that from the most noted breeders. I spent ten days at the Centennial, and examined the large lot of Berkshires there, and when I came home I was still well pleased with my *best ones*. I bought a few imported Leicester sheep while in Philadelphia, and also a large Cotswold buck. They are doing finely, and I hope before long to have a flock of sheep too.

A White-Flowered Bramble. (*Rubus deliciosus.*)

This is one of the most striking of early flowering shrubs, and was discovered in 1822 by Dr. James, who found it on the Rocky Mountains, where it grows at considerable elevations. According to a correspondent of the London *Garden*, the plant was brought into cultivation in Great Britain by Mr. Anderson-Henry, of Hay Lodge, Edinburgh, who raised it from North American seeds, the produce of which first bloomed in May, 1870. The illustration was prepared from a bush of it four feet high, in the Royal Botanic Gardens, Regent's Park, London, where he saw it bearing numerous large white flowers among serrated trilobate leaves. Its single rose-like blossoms are succeeded by reddish purple blackberry-looking fruits, which have an agreeable flavor. The plant is perfectly hardy, and is well worth a place in every choice collection of flowering shrubs; its proper position, however, is unquestionably on the outskirts of plantations or in the wild garden. Like nearly all other species of *rubus*, it may be readily increased by means of root cuttings.

There is a Japan *rubus* of erect growth, with large double white flowers, which is very desirable, being hardy and also stands forcing well.

Vegetable Garden.

Preparations for Active Work.

In this latitude not much work can be done until after this month has passed; but in many quarters where the *Farmer* is read, the hardy crops not wintered over will go into the ground. The making of manures and composts should never cease. Plenty of manure is the key to a successful and profitable garden. Hot beds ought to at once be made ready for use, broken glass replaced, wood work painted, mats and shutters put in good repair. Tools should be gotten in order and wanting pieces supplied.

Trust to no seeds that are of dubious origin or age. Those you get from seedsmen should be sent for before the pressure upon them begins. For your main crops stick to tested sorts, but try in a small way a few of the novelties always offering. It is interesting and instructive to do this; but do not go too deep till you have fixed their value. Prepare new poles for beans (don't have them too high), brush for peas, and do now what you can to save time when the busy season begins.

If your garden was not plowed last Fall, as it should have been, have the work done as early as practicable. Plant everything as far as possible in rows, so that they may be tended with a horse and cultivated, and save hand hoeing.

Don't be sparing with the manure; but if it has been largely applied for a number of years, a dressing of lime will be found very advantageous, sweetening up the accumulated vegetable material and loosening the plant food stored up.

Best Selection of Vegetables.

A. S. Fuller, editor of the *Rural New Yorker*, gives the following as his experience with profitable garden vegetables. Of tomatoes, Conqueror and Canada Victor are good early sorts; for the general crop nothing equals the Trophy. Of cabbages, Early Wyman and Early Wakefield are good. For market he would plant Winnigstadt, which, though poor in quality, always gives solid heads. For market sorts, Fottler's Improved Brunswick and Curled Savoy. Of beets,

none excel the old well-known Bassano for early and the Long Blood for late. Of peas, after trying many sorts, he comes back to the old Champion of England. For early market, Dan O'Rourke, Carter's first crop "and similar tasteless sorts" he thinks will do well enough for city people. The Landreths say the Jersey Wakefield is as a family cabbage, what the Concord is among grapes, the one for *the million*, and that it is the only early kind they need trouble with; and for winter either the Curled or Drumhead Savoy is best.

Cabbage Culture.

The question is of frequent occurrence, says Landreth's *Rural Register*, why cannot private families have head cabbage as early as the market-gardeners? Simply because of imperfect culture and insufficient manuring. The market-gardener feeds his cabbage crop without stint, and with the rankest food; frequently ploughs in the manure in the autumn, turns it up in the spring, and thoroughly incorporates it with the soil—plants early, cultivates deeply, not simply tickling the surface with the hand hoe, but uses the plough, and the horse-hoe; that cannot always be done in the comparatively small family garden, but the spade can be used, and that is the next best thing. Use it freely, dig deeply, and the result will surprise those who have heretofore relied upon the hoe alone.

The Dutch Butter Lettuce.

The Messrs. Landreth say this lettuce has come to take the place of the early cabbage, or brown butter lettuce of former days. It is not particularly attractive in appearance—the leaves are somewhat serrated, and when folded into a head look as if it were injured by rough handling,—hence is not altogether popular in market. The objection is to the exterior only. When well headed it will be found within blanched and tender—beside, and here is a quality of value: it stands the heat, does not shoot rapidly to seed, as do some other sorts, which would be of high worth were it not for that habit.

Wholesale Tomato-Growing.

For several years, writes Vick, in his *Guide*, we have furnished S. W. Hall & Co., of Frederica, Delaware, with Hathaway's tomato seed in surprisingly large quantities. These gentlemen have, perhaps, the most extensive canning establishment in the country. The seed we furnish them each year, allowing only one-half to make bearing plants, produce enough to cover more than two thousand acres. These gentlemen wrote us that one day last autumn they picked *six thousand four hundred bushels;* and what is equally pleasant to us, they further say: "We like your seed, because you give us a good article and exactly what we buy."

Orchard Grass.

A correspondent says: I am very much interested in orchard grass and hope before long to see much more of it in use. I have two acres that gave 25 bushels of seed, and three large wagon-loads of stumps for hay, and it has been furnishing pasture ever since.

Gunpowder Farmers' Club.

Messrs. Editors American Farmer:

The Gunpowder Agricultural Club held its last meeting on the 23d inst., at the residence of Ed. Scott—D. Gorsuch, foreman. The usual examination developed nothing of general interest, and was confined to the farm buildings. We came across a fine lot of June pigs intended for slaughtering. It was estimated that they would average from 150 to 160 lbs.

A Farmers' Hay Market.

One of the reports submitted after reorganization runs as follows:

To the Gunpowder Agricultural Club:—Your committee appointed to devise some means of ridding farmers of the grievances to which they are subject in disposing of their produce at the Eastern Hay Scales in Baltimore, have, as instructed, conferred with a committee appointed for a similar purpose by the junior club; and, as the result thereof, report that they believe the establishment of a hay market on the plan adopted at Philadelphia would be a partial remedy for existing evils. This, however, in view of the present financial depression, which affects farmers very seriously, is deemed impracticable at the present time. Your committee would by no means recommend an abandonment of this project. On the contrary they think it should be agitated and kept steadily in view for future action, when circumstances shall prove more favorable. We can but regard it as the final and only possible solution of the question, to be accompanied by free weighing and total abolition of the State's unjust interference in a matter so essentially individual and private. For us, as a club, immediate relief can be obtained by employing a Dederick's Perpetual Press, the advantages of which have already been particularized in your hearing, and hence need no reiteration here. (*Signed.*) Dickinson Gorsuch, S. M. Price, W. W. Matthews, E. I. Scott.

Management of Calves.

Half hour for questions and answers. Foreman asked N. R. Miles what he considered the best time to turn out calves to raise? (*a*) Now, if milk to spare. After keeping on milk for 5 or 6 weeks they begin to take mill feed and clover hay, and by the time grass comes they are ready to provide for themselves. He put out one this way last year, and it has turned out satisfactorily. S. M. Price prefers the spring (April;) are less trouble; there is no difficulty in getting them into a proper condition to winter. Has two now turned out in that way, and they are in good condition. First he tethers till they get used to being handled and accustomed to look for their feed, otherwise they become wild and do not come up to be fed.

I. M. Price—Hardly knows which he prefers. Feeds on milk for six weeks. He has taken off the cow at one day old; did as well as taken off later.

Jno. D. Matthews—Agrees with N. R. Miles; he would prefer starting now if he had stable room to spare. By spring they are strong and hearty and can roam about and get their own living. After weaning they should be fed on milk for two months; he would take off as soon

as the mother's bag is in fit condition. It is very important that all young animals should not be neglected in the early stages of their existence. If stunted then from inattention they never recover.

N. R. Miles—He is for this reason favorable to turning out now. One is more at leisure and can give that needed attention.

Jos. Bosley—His views have always been that calves, lambs, colts, etc., should come before March. All kinds of stock require sun and air. He does not approve of keeping calves in the stable on warm, sunshiny days. Even pigs he does not want in winter time.

Dickinson Gorsuch—Agrees with N. R. M. and Jno. D. M.; would turn out in the fall. He has some now turned out in the spring, which, from irregular feeding, at last deserted the feeding place entirely, and became completely wild. On this account they would require this winter extra care. It will cost more feed and attention to bring them up to anything like fair condition than if turned out last winter.

Day or Job Work.

Ed. Scott asked what is the most profitable way to have labor done which admits of being performed by the day or job? Jos. Bosley—Depends on the kind of bargain one makes; better by our own regular hands if a person can be with them all the time. I. M. P.—Never has work done by the job. It is generally slighted; has seen cut-off corn set up so badly that it falls down. Foreman—Much work can be done cheaper by the job; he has had corn husked this year at 8 cents; this is cheaper than if done by his own hands; has likewise had corn cut off cheaper and set up fully as well as if done by his own men. Where work can be done by the job he thinks it can be done cheaper, if one employs the right sort of laborers. Ed. Scott thought job hands would do work half as cheap again as one's own. W. W. Matthews—He is in the habit of having his corn both cut off and husked by the job. In some respects he does not like it so well. The chief advantage is, one gets the work finished up and done with; takes two or three times as long with our own men. Expedition is his chief inducement; the work is not done so well. One of his men spent a full day husking 21 baskets of corn; average of job hands 8 barrels. Ed. Scott—By making a proper sort of bargain, one can not only have the work done more expeditiously, but also equally as thoroughly as by one's regular hands. He stipulated beforehand this year that he would not pay for the work unless it was done with care, and though the same party had on one occasion previously botched a job miserably, he performed his labor this time in a thorough manner.

The question was put:

Is there any Advantage in Employing Itinerant Threshing Machines?

S. M. P.—With a good machine he would prefer doing his threshing with his own hands. W. W. M.—Prefers the traveling machine; it takes as long to set one's own machine as to get out all that one needs at one time. Jno. D. M.—If he had a machine of his own he would not use it. The traveling thresher always has his machine in order, and furnishes two hands.—The work moves uninterruptedly forward, and, being accustomed to his business, the thresher at once discovers any irregularity in the run of the machine, and knows how to correct it with least waste of time. Foreman—Agrees with W. W. M.; start as early as one will to get ready, it would always be nine or ten o'clock before he could begin work when he threshed with his own machine. He has been employing the itinerant machine for from 12 to 14 years.

Discussion on:

"What is the Best Way to Save Corn Fodder and Take Care of It? What the Best Way to Feed It?"

A. C. Scott—Hard to come at. This year most of the shock fodder is in better condition than the top. Doesn't see that there is any better way than to cut off. He cuts off when the corn is well made, after the husk turns white; husks at a proper time. He would not stack the fodder at all, but haul in at once direct from the field and put under shelter. By the time the corn is ready to get in, there is no danger of the fodder spoiling. No experience in cutting up for feeding; his stock has always done well on long fodder. He prefers to separate the husk with the corn. In cold weather his stock eat the husk clean, but in damp weather they don't eat the fodder. They will not eat both together well.

Supper was announced, and the club took a recess.

Continuing afterwards, Mr. Scott said, in answer to a question, that husks could be fed separately to advantage, but it pays better to sell them at $21. (*q.*) You spoke of the proper time to cut off. Do you pay any attention to the glazing of the kernel? (*a.*) Thinks the kernel should be glazed. A great deal of corn has been lost the last two years by cutting off too green.

Ed. Scott.—He has not tried any other way but cutting off at the bottom for several years. He likes when he husks to haul in right away and house all he can: it is better to house all—there is no waste. The proper time to cut is as soon as the fodder is well matured, and when cutting will not injure the corn. His was cut this year, middling early—is in nice order. With his neighbors who did not cut so green the fodder is not so good. Has fed long; no experience with the fodder cutter. (*q.*) How about husks? (*a*) Prefers pulling and setting; pays better than any other way. His husks about pay for cutting and gathering. (*q.*) Would you rather cut a little green? (*a.*) Yes, owing to the season. This year the season was cool, after cutting; if wet or sultry, fodder is apt to spoil. (*q.*) Doesn't it break up? (*a.*) Think probably it does; still, what is left is greener, nicer feed.

Ed. H. Matthews.—Prefers cutting off at the ground, and would rather let stand till the fodder gets ripe—breaks up when cut green. Theirs was cut this year a little too green. Prefers housing to stacking, though what they stacked has kept well. The stacked is disagreeable to handle in freezing weather when covered with snow. Prefers cutting even if to be thrown into the barn-yard. When not cut up the stalks come out in the manure in the spring, whole. (*q*) Does fodder lose nutriment by standing out? (*a.*) No.

Dickinson Gorsuch.—It is more profitable for a dairyman to cut his corn off at the bottom. Taking the average of five years, cut off turns out better fodder than the topped. This year top fodder has turned out nearly worthless. He is not in favor of cutting off too early. What he cut off this year latest made best fodder. Roasting-ear-corn fodder blackens and proves worthless. His plan is to haul in fodder as he pulls corn. Prefers to house: fodder loses much in nutriment if left exposed to the weather. To feed would certainly say, *cut;* however, it costs labor and time. In winter he feeds at night a mixture of cut fodder and bran; in the morning hay and grain fed dry—finds it a considerable saving of grain feed. Cattle leave a portion, which he would not have them eat—this makes good bedding; he thinks it would pay to cut fodder for bedding. Some fodder which he had left over last spring and cut, the cattle are eating up clean—leave none for bedding. Cut fodder bedding maks a better manure; is ready to go out at any time. We have no absorber equal to cut fodder; it is far superior to straw. His drill-corn gives him a better sort of fodder than that planted in squares; it is more like fodder corn. It is *the best feed* we have. At the North agricultural writers begin to entertain the idea of abandoning the corn crop, and of raising fodder alone, instead. It is best to separate the husks with the corn. At one time he considered husks more profitable than anything he raised. (*q.*) What is the comparative value of hay and husks? (*a.*) Prefers hay; his cattle refuse husks now—too dry. Sprinkled with salt water they would probably eat them. (*q.*) Any difference in time between cutting off and topping? (*a*) Topping can be done in less time. In cutting off he ties twice; goes through and makes a row first.

John D. Matthews—Dickinson Gorsuch has expressed his views so completely that there is nothing left for him to say, except that he differs with him in regard to the difference in time between cutting off and topping. His experience is the reverse. He approves of cutting up; goes twice as far.

N. R. Miles—It is best for corn fodder to let it get tolerably ripe. Tested it this year and found the ripe the best—both corn and fodder. It is not a good plan to cut too early. It is best to house fodder and to cut for feeding; goes farther and makes better manure. (*q.*) Do you husk on the stalk or pull? (*a*) On the stalk; generally feeds his husks—hence has thought it lost time to pull. Cattle will eat husk better when not housed. Husks get more moisture when left out.

S. M. Price—It was a long time before he could give in to cutting off; is satisfied it makes more feed; he also separates the husks from the fodder. One ton of husks is equal to two of hay, and will do equally as much good. With the stock he has had of late years, he has had no occasion to feed any. As for cutting up, he has had but little experience; what he has had, however, teaches him that if cattle have been fed on long fodder they will not take to the cut up. Time: Corn should get pretty ripe before it is cut; corn and fodder are both injured by cutting too green. He had a trial of it this year in his test acre, which was damaged. Like Dickinson Gorsuch, he goes through in cutting and prepares a skeleton row first, and ties the shocks. Does not form the "horse" of four cross hills, as usually practiced, but of two longitudinal ones. After tying he finds such a "horse" sufficiently strong to stand any storm. This renders the preparatory seeding of only two rows necessary. (Ed. Scott stated he seeded but one row, D. G. one and the two adjoining halves.) (*q.*) Would it pay to cut to feed to stock if one had enough long fodder? (*a.*) No. The only advantage to accrue would be shorter manure. Like the rest, he thinks it much better to have fodder housed. In ricking, as Ed. H. Matthews says, it is very unpleasant to be compelled to rake the fodder out of the snow.

I. M. Price prefers cutting off reasonably near the ground; lets get ripe; makes better feed; less loss; better corn. He would haul in as soon as possible; he would have all under shelter if he could; he would prefer cutting all up to feed. The riper the fodder the less liable it is to damage; has tried it; husked on the stalk this year from necessity; his habit has been to separate husks and fodder.

W. W. Matthews—As to sowing fodder, he has always cut off; was cut this year too green; consequently he had a good deal of damaged fodder and mouldy corn. The fodder he prefers housing as husked. For feeding, he prefers cutting up. In reference to cattle eating cut-up fodder after they have been fed on long, his experience is different from S. M. Price's. Cut-up fodder goes twice as far as long. If properly fed, there need be no loss in husks; they will eat all if fed sparingly.

Jos. Bosley—There has been a great difference in the last two seasons in their effects on corn fodder. He topped seventeen acres this year. The fodder is very much spoiled; housed it, and cattle will take it if fed nothing else. Husks on what was topped are very black—blacker than he ever saw before. What he cut last (drilled corn) is in nice order and decidedly the best he has. Expects to cut it for feeding. In cold weather fodder cut up will not injure in a pile. What he cut off after the storm was cut with high stalks—likes to cut close. T. G.

Baltimore Co., Md., Dec. 26, 1876.

NOTE.—The report of the Corn Committee (for prize) was rendered at the November meeting. It gives the award to Joseph Bosley, for largest yield, both on one and on five acres. The former produced a fraction over 22 bbls. and the latter a fraction less than an average of 19 bbls.

Effects of Plaster.

Messrs. Editors of the American Farmer:

In the spring of 1875 I sowed plaster on a lot of ground I designed for pasturing my little stock, the lot having been two years since set in clover and timothy; the plaster run short before I got over the ground (aiming at one bushel to the acre,) and in the fall there could be distinctly seen, that a larger quantity of fox-tail occupied the space where the plaster failed to reach. In the spring following I also sowed plaster on the same lot, running short precisely where it did

last year. Now, this fall I find that there is a great abundance of fox-tail on the ground reaching to the very line where there was no plaster sown, and where the plaster touched there is scarcely any fox-tail showing, although the whole lot equally presents as firm a sod all over. Perhaps you or some of your practical readers can explain the matter satisfactorily, which would be desirable and interesting to us all. J. S. E.

Cecil Co., Md, Nov. 26, 1876.

The Poultry Yard.

Roup—A Good Remedy.

This is, perhaps, the greatest scourge that the poultry breeder has to contend with; but with the care and attention that fowls are receiving at the present day, this disease is becoming less frequent. The disease may be prevented by proper sanitary regulations, and judicious housing and feeding. The requirements necessary to its prevention, are well ventilated houses, where the fowls are not exposed to any draughts, so arranged that sudden changes of weather will not expose the fowls to extremes of heat, cold or dampness.

The symptoms are various; sometimes the first symptom is a sneeze, the eyes, or nostrils, or both, are discharging a thin, watery substance, which gradually thickens as the disease develops, until it becomes a white, mattery substance, emitting a very offensive odor. In other cases, the eyes and head become swollen and inflamed. In either case there will be more or less discharge from the eyes or nostrils, and also a feverish condition. After the disease becomes well seated, the birds appear sluggish, with a gradual wasting away. The first step should be to transfer the fowl to a warm and dry room, and the water fountains should be disinfected, as also the feed-boxes, to prevent others from taking the disease.

Give the diseased fowls each a dose of castor oil, one tablespoonful, and afterward administer the following, viz: Olive oil, 1 oz., gum camphor, 1 drachm, carbolic acid, 12 drops; take a spring bottom oil can, (sewing machine is best;) hold the affected bird firmly between the knees, open the mouth, and inject a drop or two in the slit in the roof of the mouth, on and under the tongue, and in each nostril; the amount to be given, and the frequency of application, must be determined according the severity of the case.—In mild cases, one application, morning and evening, will be sufficient, but in severe, from three to five applications daily. Use the "Douglas mixture" freely in the drinking water. If any ulcers are found in the mouth, apply burnt alum and honey, by swabbing out the mouth with a rag. If the eyes or head are swollen, bathe them twice a day with warm vinegar, diluted in twice the quantity of water, or if the discharges are copious, bathe oftener. Continue this treatment until recovered, but if the case is a stubborn one, and fails to improve within from two to six days, cause the fowl to inhale the fumes of carbolic acid or sulphur (pounded brimstone.) In the absence of other remedies, I should try with strong hopes of success the sulphur fumigation. Do not return the fowls that have been cured of the roup to the general yard, for some days after recovery.—*Poultry Journal.*

Fattening Poultry.

A correspondent of the *Prairie Farmer* gives the following information on the fattening and management of poultry:

Chickens are so easily fattened, and so very superior in quality, that no others ought ever to be used at home, or offered for sale, though few or no inducements are offered in the West to sell good poultry,—as all, good and bad, sells at about the same price per piece, or head, regardless of both weight and quantity.

In fattening, all that is needed is a dry, warm coop, large enough to hold the requisite number. They should be kept up about two weeks, and in that time they ought to have all the food and water that is needed. After that length of time they do not gain but rather lose in weight. A chicken capable of becoming that heavy, ought to gain about two pounds in a fortnight, and ought to weigh, when dressed, nearly or quite five pounds or more.

Altogether the best feed for fattening is new corn, which is softer and more easily digested than old. A constant supply of water and a box of clean sand ought also to be furnished. It is surprising to see how fast they will fatten, and how superior a fat chicken thus cared for is to one that is allowed to roam at large and look out for itself.

The mode of selling poultry in the West cannot be too much condemned, as a large, fat, heavy chicken, that is a luxury to have on the table, sells for very little, if any more than a little, lean, scrawny, tough one that is not fit to eat, and cannot be made fit by any care or quantity of food.

The quality of the poultry in Southern Iowa is rapidly retrograding. It is almost impossible to purchase a chicken of any size, in any market. If chickens were sold by the pound as they are in the East, this would hardly be the case, for when a heavy breed of good eating quality was offered for sale, they would count up in proportion to weight. A reform in this respect is imperatively needed. But how shall it be inaugurated? How can we change the custom, and sell poultry by weight instead of so much a head, big or little? Live chickens should always be sold by weight.

Light Brahmas the Best.

A correspondent in Caroline Co., Md., writes us: "I would like to know of you what I can get a pair of A. No. 1 Light Brahmas for. I will take this occasion to say that I have for a long time considered them the best breed for all purposes I have ever known, commencing my experience with a pair ordered from you in 1854. I have seen no reason why I should give them up for any others. I have been so situated for the last three years that I have been compelled to give them up, but now I want to make a fresh start." W. H. C."

Useful Recipes and Suggestions.

Painting Farm-House Floors.

The practice of painting the floors of the rooms much used in country houses (where the liability to soil carpets, matting, and other covering, every farmer's wife fully comprehends) is inducing the greater use of paint, which admits of frequent washing, and the desired cleanliness may be practiced at the least expense. At the same time it is desirable to avoid offending the eye, as is unavoidable where the proper method of painting and material have not been observed. It is recommended that none but earth colors should be used in painting floors, and the rapid wearing off of a coating of oil paint on a floor is a sure indication that white lead has been mixed with the paint. This is generally the case, since it causes the paint to cover better and spread easier. Even the employment of a varnish that has been boiled with litharge should be avoided, and one boiled with borate of manganese preferred. It is also very important that the first coating should be perfectly dry before a second is laid on.—*Landreth's Register.*

A Good Whitewash.

An English journal says: "In answer to a correspondent who asks for a whitewash that will stand exposure to the weather, we give the following, which we know to be good: Take half bushel of freshly-burned lime, slake it with boiling water, cover it during the process, to be kept in the steam. Strain the liquid through a fine sieve, and add to it seven pounds of salt previously well-dissolved in warm water; three pounds of ground rice boiled to a thin paste and stirred in boiling hot; half a pound of powdered Spanish whiting; one pound of clean glue, which has been previously dissolved by soaking it well, and then hanging it over a slow fire in a small kettle, within a large one filled with water. Add five gallons of hot water to the mixture, stir it well, and let it stand a few days covered from dirt. It must be put on quite hot. For this purpose it can be kept in a kettle on a portable furnace. About a pint of this mixture will cover a square yard.

Smoky Stoves.

There is a very simple way of avoiding the disagreeable smoke and gas which always pours into the room when a fire is lit in a stove, heater, or fire place, on a damp day. Put in the wood and coal as usual; but before lighting them, ignite a handful of paper or shavings placed on top of the coal. This produces a current of hot air in the chimney, which draws up the smoke and gas at once. Not one person out of fifty ever thinks of this easy expedient.

Removing Nuts from Clips and Bolts.

The London (Eng.) *Carriage Builders' Gazette*, in answer to a writer who asks as to the best means of getting off the nuts of bolts and clips, and of driving up bolts and clips, without destroying the screws, gives the following reply:

When the clips twist ever so slightly in trying to unscrew the nuts, cease to try until you have enlarged the nut by holding it for a minute or two with a pair of red-hot tongs. If the clip has an extra point on it file it round and oil it; then try. If still firm, cut the nut in halves with a chisel, having another long chisel or iron bar held against the opposite side of the nut to take the force of the blows of the hammer. Be sure to use a light bolt hammer, which is more effective than a heavy hammer—it is better to cut off twenty nuts than to break a clip. For driving up bolts so as not to bruise or burr up the screw, unscrew the nut one turn only, or enough to cover the point of the bolt; then drive the bolt back by striking the nut; if immovable, get somebody to hold a heavy hammer on the nut while you strike forcibly the iron on each side of the head; if set fast, apply the end of a hot iron bar to the side of the head of the bolt to expand the iron. If you cannot start the bolt for want of room to strike a fair blow on the bolt point, get somebody to hold the edge of a long piece of heavy tire iron on the bolt point: then with a heavy hammer strike the bar as near the bearing as you can get at. Sometimes if the bolt is through a scroll iron, and where the spring is in the way of the hammer, a peculiar shaped drift pin has to be used—it is something like a tuning fork; the fork being put on the driving bar at right angles, the bar is struck to drive the drift pin up the bolt hole.

Paint for Galvanized Iron.—One of the best paints for galvanized iron exposed to the weather, says the *Scientific American*, is, where a dark color is not objectionable, common asphalt, dissolved in turpentine or benzine. It is extremely tenacious, dries soon, and becomes very hard and insoluble by the action of sunlight. It is flexible and very durable. Do not mistake it for coal-tar.

Castor Oil, in which a small quantity of lamp-black has been stirred, is an excellent air and water-proof composition for boots and shoes in winter. It closes the pores of the leather, excluding both air and water, consequently making the feet very much drier and warmer. This has been tested for many years and can be confidently recommended.

The Centennial Plow.

The above little cut shows the plow bearing this name which was described by Major McCue, of Augusta Co., Va., in the May number of the *Farmer* of 1876.

The plow is being manufactured by Jacob Shickel & Sons, Bridgewater, Va., and they write us that its use by practical men, who have thoroughly tested it, has given entire satisfaction. The essential improvement in these plows consists in a double wedge inserted in the land-side, making a part of it and adding strength to it, and which may be used as four distinct points. When the upper side of one end is too much worn off, it is turned upside down, and then the ends are reversed; a single bolt secures it in place. The point can be applied to any make of plows without much change.

The Apiary.

Making Hives.

Mr. J. P. H. Brown says in the *Southern Cultivator*: "Shallow frames, such as the Langstroth, &c., are the most suitable for our climate. They are the best adapted for use to the extractor, and also for the arrangement of honey boxes.

Make your hives of lumber that is well seasoned; put them together well and give them several coats of paint. Hives made in this manner are always the cheapest in the long run. In portions of Germany they use a sort of cement paint for rough hives, which is said to be better than oil paint. Recipe: "Two parts, by measure, of fine sand, well sifted; one of best hydraulic cement; one of curd from which the whey has been well expressed; one of buttermilk. These are to be thoroughly mixed. The paint is to be applied, amid repeated stirring, to the hives, by means of a common paint brush. A second coat is to be given after the lapse of half an hour. When this has become thoroughly dry, which will be in two or three days, it is to be brushed over lightly with a thin coat of boiled linseed oil, to which any desirable color may be given. The boards to which the paint is to be applied should not be planed, but remain rough as the saw leaves them. No more of the paint should be prepared at any time than can be used in the course of half an hour, as it quickly hardens."

The frames should be accurately made and hang true when in the hive. The top bars of frames should measure from the centre of one to the centre of the other, from 1 1-16 inches to 1¼ inches; and a half inch space should be allowed between the ends and bottom of frame and the ends and bottom of hive. When this distance is allowed the bees are not so apt to glue them fast to the hive.

Most any sort of box will do for surplus honey, but I use and prefer those with small frames. They are more easily removed, and the honey is in better shape for market. If you want extractors, feeders, &c., do not delay ordering till the time you actually need them. The manufacturers may be crowded with orders, and you cannot get them always just when you should have them.

The long winter evenings afford ample time to read books that treat of the natural history of the honey-bee, and the principles of bee culture. For, without this knowledge, it is absurd for any one to suppose they can meet with great success in profitable bee-keeping

Protecting Tobacco Beds.

Our esteemed correspondent, Nansemond, in a recent letter in the *Rural Messenger*, addressed to Major Ragland, of Halifax Co., Va., recommends as a means of protection from the casualty of last season—destruction by frost—that cheap canvas or cloth covers, or screens, say 3x6 feet, be used,—arranged similar to covers for hot beds. They may be used on tobacco beds as now prepared, only that the beds should be 6 feet wide and any length desired. Place at the north boards two feet high, and at the south one foot, and cover with the screens, which would prove a more perfect, safe and reliable protection, easier removed and replaced than the brush now used.

Veterinary.

LAMPAS.—Dr. Horne, V. S., in the *Country Gentleman*, says: Lampas is an inflammation caused by shedding teeth in young horses, or by digestive disorders in older ones. *Law's Veterinary Adviser* prescribes scarifying the swollen ridges with a sharp knife, for half an inch back from the teeth, to be followed with astringent lotions if necessary. If caused by digestive troubles, give bran mashes with milk physic. We have never failed in curing it in colts by lancing the swollen ridge, and feeding hard, dry ears of Indian corn, giving also bran or oil meal to keep the bowels regular.

INFLAMMATION OF A HORSE'S EYE.—A speck in the eye of a horse, resulting from inflammation, may be absorbed in time, if a return of the cause is guarded against. A good cooling dressing for the eye, is four grains of sugar of lead, dissolved in one ounce of rain water; or sulphate of zinc may be used instead of the lead. A rag, saturated with the solution, should be hung over the eye, and the animal kept in a dark stable for some days. The absorption of the speck may often be hastened by blowing into the eye, through a goose-quill, a pinch of burnt alum. —*American Agriculturist.*

WORMS IN HOGS.—The following vermifuge will be found beneficial, says the *Turf, Field and Farm*, in ridding hogs of worms in the small intestines: Castor oil, two ounces; oil of wormwood, two drachms; oil of tansy, one drachm; to be given on an empty stomach, followed by a mash of fine feed, well seasoned with salt. Repeat, if necessary, until the bowels respond.

COLIC.—The same paper says, this trouble is very likely to arise from the food fermenting in his stomach, causing spasmodic irritation of the muscular coating of the intestines, generally confined to the cœcum and colon. Give a drench composed of one ounce tincture opii, one drachm powdered nitre, four drachms tinct. peppermint, eight ounces raw linseed oil and half a drachm tartar emetic. If not relieved in one hour, repeat the dose. Give walking exercise only.

MEDICATING A PIG.—At a recent meeting of an English farmers' club, Professor McBride spoke of the difficulty of administering medicine to a pig. He said: To dose a pig, which you are sure to choke if you attempt to make him drink while squealing, halter him as you would for execution, and tie the rope end to a stake. He will pull back until the rope is tightly strained. When he has ceased his uproar, and begins to reflect, approach him, and between the back part of his jaws insert an old shoe, from which you have cut the toe leather. This he will at once begin to suck and chew. Through it pour your medicine, and he will swallow any quantity you please.

A GOOD LINIMENT.—Take inner bark of white oak boiled down in an iron kettle (never use a brass one) until it is as black as ink; while boiling drop in a piece of alum, about the size of a hen's egg. This liniment is to be applied with a sponge, and is good for any sore or bruise; in fact it is a safe thing to keep in one's barn, ready to use when occasion requires.

Household Recipes.

HAMS.—In stripping a ham, great care should be taken to clean it thoroughly before cutting, as any mould carried down on the knife-blade in slicing will affect the flavor when frying. In boiling, the ham should always be placed on the stove in cold water, and, what is more important still, unless it is to be used warm, it should not be taken out of the water in which it is boiled until quite cold. This important point is not generally known, but the reasons are so obvious that no one will question them when explained. If a ham is taken out of boiling water and cooled rapidly, the sudden contraction which ensues cannot fail to toughen and harden the ham, while, if cooled in the water in which it is boiled, the juices expressed in boiling are again drawn into it, and it cools with pores open, mellow and juicy. Good hams fall a prey to the wild, untutored, savage cooks.—*Turf, Field and Farm.*

TO PREPARE ONIONS.—It is admitted that the majority of people like onions as food. Only for the perfume many would eat them who now do not. The unpleasant breath which eating this vegetable produces is, perhaps, the greatest objection to its use; but still it is a wholesome and desirable article of food for many, and hence should be brought on the table in the most attractive form. Take off the outside skin, cut off both ends close and let them stand in cold water an hour, then drop them into a saucepan with two quarts of boiling water. Cover and boil fifteen minutes. Have a kettle of boiling water on the fire ready for use, pour off the water from the onions and add as much more—be sure the water is boiling—and boil half an hour longer. Scald a cupful of rich milk and a little Graham flour to thicken it. Salt and otherwise season to taste. Boil a few minutes and serve the onions whole. Or they may be cut in halves before cooking. To be used raw, a few moments before eating they should be sliced down thin and sprinkled with sugar. Then they will not rise on the stomach or produce heartburn.—*Rural Register.*

CALF'S HEAD.—Boil the head, when nicely cleaned, about four hours, with a small piece of pork; tie the brains in a cloth and boil one and a half hours. Chop a small piece of heart, liver, and head fine, and mix with the brains. Roll a Boston cracker fine; beat one or more eggs, a piece of butter, pepper and salt, and a little cream. Warm these ingredients together. Use a flour and butter sauce.

BOILED BREAD PUDDING.—Crumb your stale bread into a pudding-pail and cover with sweet milk; set it by the stove to warm and soften; then to a quart of milk add three well-beaten eggs, a half cup of sugar, and as much fruit as liked, either dry or preserved; set it in boiling water, and do not allow it to stop boiling till done. Do not fill the pail, as it needs room to rise.

APPLE FRITTERS.—One quart milk, three eggs and flour enough to make a batter. Pare and core one dozen large apples, chop them to about the size of small peas, drop the batter with a spoon into hot lard and fry as you would doughnuts; eat with cider, or wine and sugar.

Health Notes.

In answer to the question, "Why are farmers so liable to rheumatism?" the *Science of Health* says: Because they wear wet clothing, heat and suddenly chill the body, overeat after very hard work, and because they do not keep the skin in a vigorous healthy condition. If farmers would avoid suddenly cooling the body after great exertion, if they would be careful not to go with wet clothing and wet feet, and if they would not overeat when in an exhausted condition, and bathe daily, using much friction, they would have less rheumatism.

To alleviate inflammatory rheumatism, take four ounces saltpetre in one pint of alcohol; shake well and bathe parts affected; wetting red flannel with it, lay it on. It does not cure, but takes away the redness, reduces the swelling, and relieves the torment and agony.

A hot lemonade is one of the best remedies for a cold. It acts promptly and efficiently, and has no unpleasant after effects. One lemon should be properly squeezed, cut in slices, put with sugar, and covered with half a pint of boiling water. Drink just before going to bed, and do not expose yourself the following day.

The following is said to be a never-failing cure for earache: Take a bit of cotton batting, put upon it a pinch of black pepper, gather it up and tie it, dip it in sweet oil, and insert it in the ear. Put a flannel bandage over the head to keep it warm. It will give immediate relief.

A correspondent of the *Homestead* gives the following simple remedy for a felon, which he says was never known to fail: "When the felon makes its appearance, procure five or six lemons, and cut off the end and thrust the finger into the lemon, until it becomes warm. Then withdraw the finger, which will have a whitish appearance, and take another, proceed the same as before, until the six are used. It is very simple, and is accompanied by no pain whatever, and by the outlay of a trifling sum save a deal of suffering, and possibly the loss of a finger." Another cure is said to be one teaspoonful of honey, one of powdered alum, one of flour, moistened with good vinegar and poultice twice a day.

A house should be so placed that the direct rays of the sun shall have free admission into the living apartments; because the sun's rays impart a healthy and invigorating quality to the air, and stimulate the vitality of human beings as they do those of plants, and without sunlight human beings, as well as plants, would sicken and die. The aspect, therefore, should be south-east.

Dr. W. W. Hall says that the portion of the body which most requires protection against cold and wind is that between the shoulder blades behind, as it is at this point the lungs are attached to the body, and the blood is easily chilled.

Dr. Rush argued that fresh, ripe fruits, of which children are very fond, are the most speedy and effectual poisons for worms. In practice this theory has proved to be correct.

The Grange.

The National Grange.

In our last issue we gave an abstract of the address of Master Jones, at the meeting in Chicago. This was appropriately referred to committees, and the following are among the results:

Four amendments to its constitution were adopted and referred for ratification to the several State Granges, as follows: 1. Opens the higher degrees to all fourth degree members in good standing. 2. Changes the Executive Committee of the National Grange from five to three members. 3. Changes the sessions of the National Grange from annual to biennial ones. 4. Allows subordinate granges to elect a qualified substitute as their representative in the State Grange, when the Master cannot attend.

The Grange endorsed the plan of co-operation recommended by the Master, and all joint stock stores, now established by patrons on various plans throughout the country, were advised to be converted into co-operative stores on the Rochedale plan as amended. No change was made in regard to State agencies, but all subordinate granges were recommended to provide a purchasing fund and to mass their purchases and sales.

The question of Agricultural Education was discussed and the united sense of the Grange was found to be in favor of pure and simple agricultural schools, totally distinct from all other educational institutions.

The National Grange recommended to each State Grange to make a small appropriation to enable the Master and Executive Committee to make an exhibition of the agricultural and mineral products of each State at the meetings of the National Grange.

Maryland State Grange.

This body met at Annapolis, in the hall of the House of Delegates, on the 12th December, and was in session three days. The attendance was fair, though the interruption of navigation by the ice prevented a number of the members from the Eastern Shore being present, and the proceedings were harmonious and interesting.

Of the amendments to its constitution proposed by the National Grange, the first was rejected and the other three ratified.

The principal interest centered in the question of the State Agency, and a plan submitted by the committee was adopted, looking to its continued maintenance and support by strengthening it financially, so as to enable it to make advances on crops, sell grain on the Corn Exchange, &c.

The position of Overseer, made vacant by the resignation of Dr. Woodruff, of Somerset, was filled by the election of Lewis L. Waters, Esq., of the same county.

The Grange—Its Objects and Uses.

Col. D. Wyatt Aiken, one of the earliest of patrons, thus writes of the Order in the *Rural Carolinian*:

During the past year we have discussed in these columns the Order of the Patrons of Husbandry, and attempted to show that it was an organization peculiarly adapted to the farmer of every nation and clime. We think that we have proven it to be an Order progressive in all its tendencies, but inimical to no one individually, and certainly antagonistic to no profession, vocation or organization. Aiming alone, and solely, to elevate the farmer, and thereby increase the happiness of the masses in every agricultural community, the Order can pounce upon all those unfounded prejudices that are attempted to be created against it by selfish, designing parties.

But to say that farmers throughout the Union, or in any State in the Union, fully appreciated the scope of this Order, would be giving them credit for more than they deserve. In localities where a fair proportion of the farmers have reflected upon the aims and objects of the Order, the Grange flourishes and seems to have been built upon a firm and permanent foundation. But in vastly the majority of instances the Grange has almost forced itself upon the farmers, and they have failed to nurse and cherish it as a treasure.

Designed to improve the social habits of the farmers, and beautifully adapted to this very purpose, the Grange has been subjected to different purposes that have prevented its complete usefulness as a social institution, and converted it, in many instances, simply into a trading company. It could not have been anticipated to what extent the Grange would have grown, nor could any one foresee its business development, but the latter has kept pace with the former. No sooner was a Grange organized in a community, it matters not how sparsely settled, than the very coming together of its members suggested ideas of mutual, practical, material benefits, and wherever there have been practical men in the Grange to direct its business features, it has shown itself equally well adapted to this as to the social feature of the organization. But whatever all business transactions, that have grown out of the organization, have been entrusted to impractical men, the cause has been injured, the Grange has sickened, and in many instances has died beyond resurrection. Hence our firm conviction that there is nothing in the idea or philosophy of the Order that does not adapt itself to the farmer and his wants. If he is isolated and alone in some sparsely settled region, the Grange becomes his social, moral, and practical friend. If he is near a market, the Grange directs him how to acquaint himself with the "tricks of trade," and enables him to avoid the useless employment of those who live upon the labors of others exclusively.

Then in ceasing the discussion of this question for the present, we appeal to all farmers, everywhere, to reflect upon the claims the Grange has upon them, and consider well whether their duty to themselves and families, their obligation to their neighbors and to their profession do not call upon them to foster the Order of the Patrons Husbandry, and, by becoming members of the orgunization, to use their efforts to elevate themselves, and thereby improve the social, moral, intellectual, educational and material interests of the communities in which they live?

A number of communications, received too late for this issue of the *Farmer*, will appear in our next.

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Clubs for 1877.

The very low rate at which we offer the *Farmer* in clubs gives us, after the prepayment of the postage, a very small margin of profit on the actual mechanical production of the paper; but we adopt this plan in the hope of stimulating our friends to extend its circulation in their respective neighborhoods. The subscription of $1.50 a year is, as we believe, very moderate for the amount of practical information contained in a volume, and the reduction to clubs is only made to bring it within the reach of all.

We are sure no farmer, even in the dullest times, but would find his profit in such a modest investment. Will not our friends, then, try to enlarge our lists by forwarding liberal clubs at this very low figure?

Clubs can be added to at any time, and there is no necessity for all the papers to go to one post-office.

Our subscribers will, however, please bear in mind that the $1 rate does not apply to single names, and that those who do not renew in clubs will be expected to pay the regular subscription price of $1.50.

☞Availing of the opportunity offered us at the opening of a new volume, we renew the invitation to all our readers to contribute, from time to time, to any of the departments of the *Farmer*, facts and experiences likely to be serviceable or interesting to their fellow-workers. Scarcely any of the intelligent farmers who compose the constituency of this journal but occasionally find themselves possessed of information, as to processes in their art, which should be widely spread abroad. All such matters are welcomed to and solicited for our columns. To those who would excuse themselves from this *duty*, because they are not accustomed to writing for the press, we beg to say the *form* makes little difference. Give us the facts and the sense, and we will improve the dress, should any improvement be needed.

The Pomological Society's Meeting.

The Maryland Horticultural Society has fixed upon the 11th, 12th, 13th and 14th of September for its Annual Exhibition for 1877, and a correspondence between its office and Col. Wilder, President of the American Pomological Society, indicates that it is probable the 12th will be the date of the assembling in this city of the National Society. The place of holding the exhibition and meeting has not yet been determined upon.

Farmers' Convention of Montgomery Co., Md.

This annual meeting, always made an interesting one by the discussions of the intelligent and wide-awake farmers who participate, will be held at Sandy Spring, on Thursday, 11th instant. Below we give a list of the subjects which will come up for consideration. We hope to be able to be present, as usual, that we may make a report of the proceedings for the benefit of our readers:

QUESTIONS.

1. Should grass fields be left more than two years in sod?
2. What sized farm justifies keeping oxen?
3. In this section does it pay to raise roots for stock?
4. When should we plough for corn?
5. What is the best method of working corn?
6. Does the profit on sheep and hogs pay for the increased cost of fencing required?
7. Considering the heavy first cost, does it pay to keep thoroughbred stock?
8. Are horses or mules best for farm work?

There will be abstracts from the proceedings of the various clubs and associations, and other subjects of interest.

THE SHOW OF THE MARYLAND POULTRY AND FANCIERS' ASSOCIATION opened on the 28th December, and will continue to January 5th. The display of fowls, pigeons, pets, sporting and other dogs, is very fine, and the success of the exhibition seems assured with moderately good weather. All who can do so should not fail to visit this interesting show. The prizes amount to over $4000 and in the dog department the entries are said to be more numerous than at any similar exhibition ever held in this country.

Contents of January No.

A New Volume of the "Farmer"..... 1
Dr. M. P. Scott's Address on Agriculture as a Science..... 2
Peruvian Guano and Ground Bones—a Comparison..... 4
Premium Crop of Wheat in Montgomery Co., Md..... 5
Wheat-Growing in the South, by J. R. Thigpen..... 5
Market Crops for Small Farmers..... 6
Cotton Seed as a Fertilizer, by L. A. Hansen. 6
Raw vs. Cooked Roots, for Cattle, by Dr. Wolff. 7
G. F. M. Walters, of Fairfax, Va., the Farm of. 7
Labor and Its Results, by Rustic..... 8
Farm Refuse, by Dr. D. Stewart..... 8
Seasons and Crops in W. Va., by C..... 9
Sheep and Dogs in Va., by R. W. Keep..... 9
From Our Paris Correspondent..... 10
From Our Corresponding Editor..... 11
Three Things to Do, in Farming 11
Report on German Millett..... 11
On Fattening Hogs, by Nansemond..... 12
American Association of Short-Horn Breeders. 12
The Time is Now, to Improve Stock..... 13
Stable Care and Ventilation..... 13
Treatment of Young Horses..... 13
A Dip for Sheep..... 13
Loss of Cows by Milk Fever..... 14
Mutton Sheep 14
Which is the Best Breed of Hogs?..... 14
Mules vs. Cows in the South..... 14
New York Dairymen's Association, Proceedings of 15
Feed Most Profitable for a Butter Dairy Cow. 17
Farm Work for January—Open an Account Book; Hen Manure; Grain Fields; Tobacco Beds; Live Stock..... 17, 18
Horticultural Societies, by J. Fitz..... 13
Maryland State Horticultural Society..... 19
Tree Washing in Winter..... 20
Pear Blight, by Meehan and Johnson..... 20
The Vineyard—Culture of the Grape, by John Cook; do., by C. A. Heineker; The Foreign Grape; Secretary Grape..... 22
Floriculture for Jan., by W. D. Brackenridge. 23
Chesnut Hill Views, by W. F. Massey..... 24
Fine Stock in Maryland, by Mr. Lea..... 24
A White Flowered Bramble (with cut) 25
Vegetable Garden for the Season..... 25
Best Selection of Vegetables, and Cultivation of..... 25
Orchard Grass, its Value..... 26
Gunpowder Farmers' Club, Discussions at..... 26
Effects of Plaster..... 28
Poultry—Roup, a Remedy for; Fattening Poultry; Light Brahmas the best..... 29
Useful Recipes and Suggestions..... 30
The Centennial Plow..... 30
The Apiary—Making Hives..... 31
Protecting Tobacco Beds..... 31
Veterinary Recipes..... 31
Household Recipes..... 32
Health Notes..... 32
The National Grange..... 33
Maryland State Grange..... 33
The Objects and Uses of the Grange..... 33
Editorial Notices..... 34
Pomological Society's Meeting..... 34
Montgomery Co. (Md.) Farmer's Meeting..... 34

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Baltimore Markets—December 30.

The quotations below are Wholesale Prices.

Breadstuffs.—*Flour*—Market firm, but transactions limited. We quote Howard Street Super $4.59@5; do. Extra $5.50@6; do. Family $6.25@7.25; Western Super $4.50@5; do. Extra $5.25@6; do. Family $6.25@7; City Mills Super $4.50@5; do. standard Extra $5.50@6; do. medium Extra $6.75@7; do. Rio brands Extra $7.50; Fancy brands $9; Fine Flour $3.50@4; Rye Flour $3.75@4; Corn Meal, City Mills $3; Western $2.50; Buckwheat Meal, New York, $3.75@5; Pennsylvania and Maryland, $3@3.25 ₩ 100 lbs.

Wheat.—In good demand. Market firm, but supplies limited. We quote Southern red, common to fair, $1.25@1.40; do. good to prime, $1.45@1.50; do. amber $1.52@$1.55; do. white $1.25@1.48; No. 2 Western winter red $1.42@1.44.

Corn.—Southern quiet, but firm. We quote Southern white 56@56 cents; do. yellow 55@56 cents; Western mixed 58¼ cents.

Oats.—Dull, with quotations of Western mixed at 33@35 cts.; do. bright 36@38 cts.; Southern fair to prime 33@35 cts.

Rye.—Dull and quoted at 72@74 cts.

Cotton.—Firm and in demand, with an advancing tendency. We quote Middling 12¼; Low Middling 11¾@11¾; Strict Good Ordinary 11¼@11¼; Good Ordinary 10¾ cts

Live Stock.—*Beef Cattle* fairly active, with prices ranging as follows: Best Beeves $5.50@6.50; generally rated first-class $4.25@5.2 ; medium or good fair quality $3.50@4; ordinary thin Steers, Oxen and Cows $3@3.50. *Hogs*—Market firm, with quotations of common Hogs at 7¼@7¼ cts., and good fat Hogs 8 cts. *Sheep*—Rather dull at 4@6 cts. ₩ lb. for fair to prime.

Mill Feed.—City Mills Brownstuff and Middlings, $20; Western Bran, $16; do. Middlings, $18@19 ₩ ton.

Provisions.—Firm. We quote Bulk Shoulders 7 cents; clear rib Sides 9@9¼ cents; Bacon Shoulders 7½ cents; clear-rib Sides 9½ cents; Hams 14½@15¾ cents; Lard 11½ cents; Mess Pork $17@17.25. *Butter.*—Dull. New York State 30@33 cents; Western tubs 25@28 cents; do. roll, extra 24@25 cents. *Cheese.*—Eastern 14½@15 cents for good to choice; Western 13@14 cents for good to choice.

Seeds.—Clover steady at 14½@15 cents ₩ lb. Timothy dull at $1.90@2.00. Flax nominal at $1.30@1.50.

Tobacco.—Very dull, and receipts light. We quote Maryland frosted $3@4; common to good sound $4.50@$7.00; middling to fine $7.50@11; upper country $9@24.

Wool.—Tub-washed 35@40 cents; unwashed 28@30 cents; fleece-washed 28@33 cents.

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9 "	4 70	20 "	6 20	31 "	8 60	42 "	10 90	53 "	13 20
10 "	4 80	21 "	6 40	32 "	8 70	43 "	11 00	54 "	13 30
11 "	4 90	22 "	6 60	33 "	8 80	44 "	11 10	55 "	13 40
12 "	5 00	23 "	6 70	34 "	8 90	45 "	11 20	56 "	13 50
13 "	5 10	24 "	6 80	35 "	9 00	46 "	11 30	57 "	13 60
14 "	5 20	25 "	6 90	36 "	9 70	47 "	12 00	58 "	13 70
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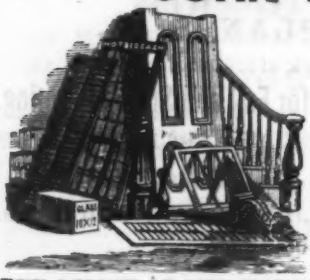

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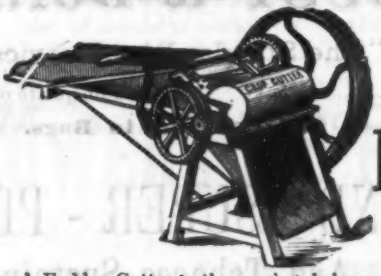

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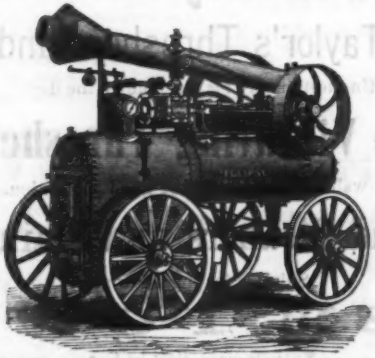

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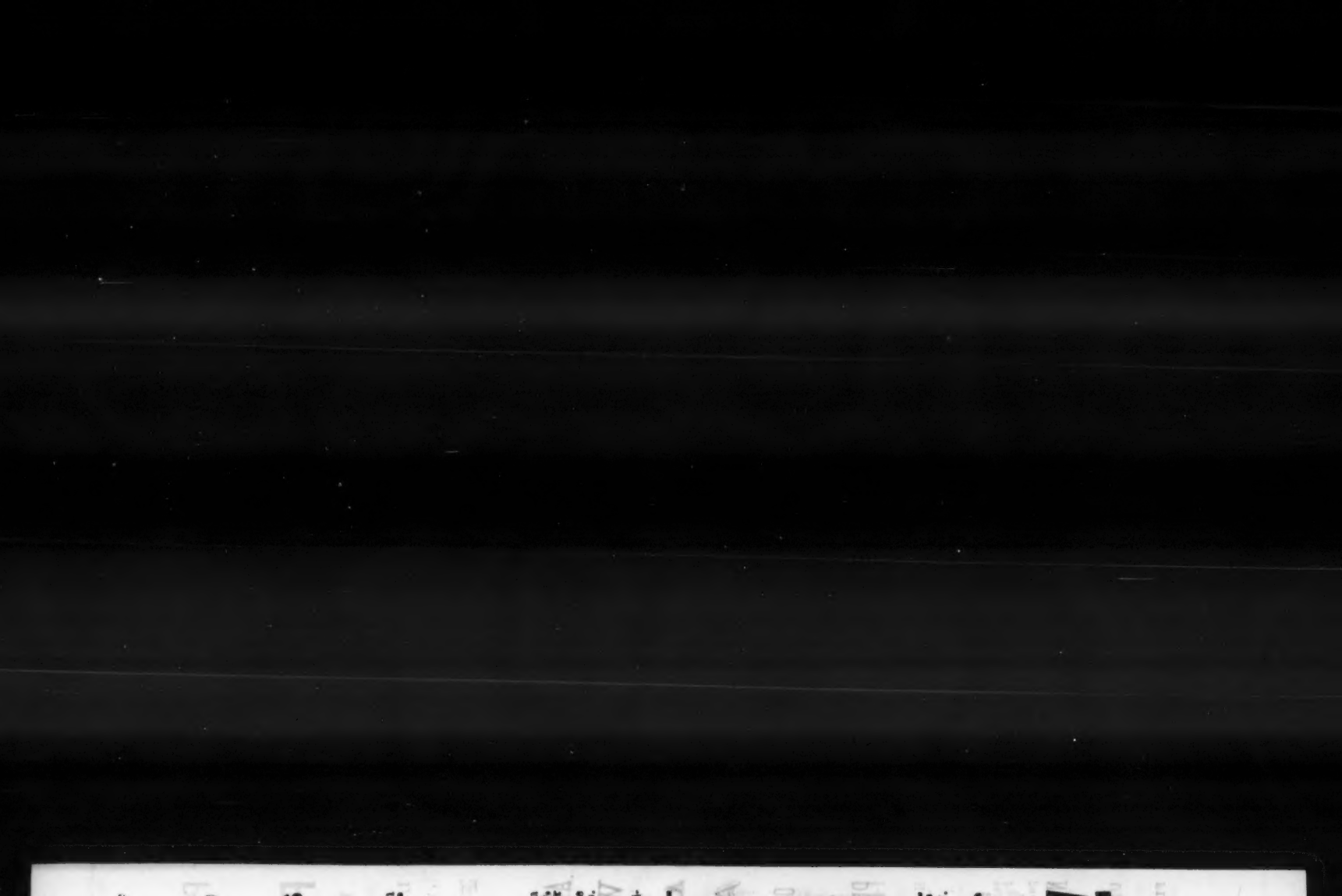

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